

EXHIBIT A-20

Appendix B to NEC Corporation's Opening Claim Construction Brief (Dkt. 29-20)

APPENDIX B

Supplemental

Declaration of Dr.

Shoemake Regarding

Claim Construction

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

**WSOU Investments, LLC d/b/a Brazos
Licensing and Development,**

Plaintiff,

v.

NEC Corporation,

Defendant.

Case No.: 6:20-cv-00923-ADA
Case No.: 6:20-cv-00924-ADA
Case No.: 6:20-cv-00925-ADA
Case No.: 6:20-cv-00926-ADA
Case No.: 6:20-cv-00927-ADA

Jury Trial Demanded

**SUPPLEMENTAL DECLARATION OF DR. MATTHEW SHOEMAKE, PH.D.,
REGARDING CLAIM CONSTRUCTION**

I declare, under penalty of perjury, that all statements made in this Supplemental Declaration based on my own knowledge are true, and that all statements made based on information and belief are believed by me to be true. I have been warned, and I understand, that willful false statements and the like are punishable by fine, imprisonment, or both (18 U.S.C. § 1001).

Date: September 10, 2021

By: 
Matthew B. Shoemake, Ph.D.

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I. **INTRODUCTION**

1. My name is Matthew B. Shoemake, Ph.D. I have been retained on behalf of Defendant NEC Corporation (“NEC”) to opine and provide expert testimony related to U.S. Patent Nos. 7,885,398 (“the ’398 patent”) and 8,103,213 (“the ’213 patent”).

2. In this supplemental declaration, I opine on the scope and meaning of certain claim terms that appear in the ’213 patent. Specifically, these are additional terms from the ’213 patent that I understand NEC asserts are “means plus function” terms in addition to those from the ’213 patent that I discuss in my original declaration.

3. In my original declaration, I already provided an overview of the ’213 patent, including of its technology and the qualifications of a person of ordinary skill in the art (“POSITA”). That overview and discussion, and my related opinions, also apply to this supplemental declaration. My original declaration also sets forth the materials I have considered, my qualifications and curriculum vitae, a discussion of my compensation, and applicable legal principles for claim construction. Those same sections of my original declaration also apply here to this supplemental declaration, which can be considered to be a supplement to my original declaration..

4. I also incorporate into this supplemental declaration my discussion of the ’213 patent generally, including an overview and technology background, a discussion of the asserted claims and disputed claim language, and who would qualify as a person of ordinary skill in the art.

II. **SUMMARY OF OPINIONS**

A. **Summary of Claim Construction Opinions For The ’213 Patent**

5. My understanding is that WSOU has asserted claims 1, 8, and 22–26 of the ’213 patent. My further understanding is that NEC and WSOU dispute the scope and meaning of certain claim terms that appear in claims 1, 8, and 22–26 of the ’213 patent.

6. My understanding is that the earliest priority date for the '213 patent is September 3, 2008, the date U.S. Patent Application No. 12/203,746 was filed from which the '213 patent issued. As of that date, a POSITA for the '213 patent would have had (i) a bachelor's degree in electrical engineering, computer science, or computer engineering, or undergraduate training in an equivalent field, and (ii) at least two years of experience in telecommunication technology. Additional graduate education could substitute for professional experience, and significant work experience could substitute for formal education.

7. In my opinion, NEC's proposed constructions for the following terms are correct, and WSOU's proposed constructions are incorrect, for the reasons discussed in this declaration. Specifically, a POSITA would have found the claim terms to have the meaning proposed by NEC or found those terms to be indefinite where NEC has proposed that the term is indefinite.

1. The "Means For," "Computer Program Code Configured To," And "The Processor Being Configured To" Claim Terms

8. My understanding is that NEC and WSOU dispute whether certain terms are so-called "means-plus-function" or similar terms, in which the claim terms recite the function to be performed. These terms may begin with the words "means for," "computer program code configured to," or "the processor being configured to." My understanding is that NEC and WSOU may also dispute what corresponding structure or algorithm is clearly linked to perform the claimed function and, in some instances, whether any structure or algorithm for the function is disclosed by the specification.

9. In my opinion, the terms "means for," "computer program code configured to," and "processor being configured to" in the disputed claim terms of the '213 patent do not connote specific structure for performing the specific functions that are recited following this language. "Means for" is a placeholder and does not connote structure to a POSITA. "Computer program

code configured to” similarly indicates, at most, generic computer program code and does not connote to a POSITA any specific algorithm, instructions, steps, processes, or other structure for performing functions that are recited following this language. “Processor being configured to” would only connote a general-purpose processor to a POSITA and, similarly, does not connote any particular, special purpose processor, nor does it connote any specific algorithm, instructions, steps, processes, or other structure that the processor might execute in order to be configured for performing the claimed functions. Further, the term “configured to” in conjunction with the word “processor” connotes to a POSITA that either the computer program code or processor must be specially adapted to perform a claimed function. Nor do the claims of the ’213 patent themselves describe or provide any means for how to configure the processor or computer program code to perform the claimed function.

10. Because the claims do not provide or connote the structure for performing the claimed function, I reviewed the specification of the ’213 patent in an attempt to identify the structure that it clearly links to performing the claimed functions, and to assess whether any disclosed structure was sufficient to perform the claimed functions. However, when I reviewed the specification of the ’213 patent, I determined that the specification fails to disclose or clearly link any specific algorithm, instructions, steps, processes, or other specific function for performing the claimed functions of the disputed “means for,” “computer program code configured to,” and “processor being configured to” claim terms. Instead, the specification recites only a “black box” apparatus, without any disclosure of specific substructures that are clearly linked to performing and also are sufficient to perform the claimed functions. This includes the specification’s failure to disclose and clearly link any specific algorithms, steps, or instructions for performing the functions of these claim terms. Accordingly, it is my opinion that each of these claim terms fails

to inform, with reasonable certainty, a POSITA about the meaning and scope of these claim terms and their alleged inventions.

11. I understand that WSOU has identified several portions of the specification that allegedly describe algorithms or other structure that implement the claimed functions for some of these claim terms. For the reasons discussed in this declaration, I disagree that these identified portions of the specification disclose algorithms or other sufficient structure to perform the claimed functions, and I also disagree that these portions are clearly linked to performing the claimed functions by the specification. Instead, WSOU’s specification citations: (1) repeat the claimed function, and only assert the function is possible without providing sufficient corresponding details; (2) describe other functions that are not the claimed function at issue; or (3) describe black-box structures for the recited function without any accompanying algorithm or other sufficient structure.

12. As an example, WSOU cites to certain portions of the specification for the claimed functions of “initiating an inquiry” and “responding to the inquiry.” In doing so, WSOU cites portions of the specification stating that “apparatus A 1300 may send a wireless inquiry to apparatus B 1302,” that the “wireless inquiry may be sent, for example, utilizing a channel (e.g., an initialization channel), and that “[a]pparatus B 1302 may acknowledge receipt of the inquiry from apparatus A 1300.” However, apparatuses A and B are black-box structures, meaning that the specification does not describe what the apparatuses consist of or what specific hardware or software exists within either apparatus A or B. Further, none of these very limited specification citations by WSOU disclose or explain what an “inquiry” is, how it is “initiated” in apparatus A or what specific structure creates and sends the inquiry, or what structure of apparatus B is configured to “respond.” The cited figures simply illustrate one rectangle labeled “A” and another

labeled “B.” The specification does not set forth for a POSITA how what is allegedly achieved by “A” and “B” is in fact achieved. In other words, they are described by their functions and not by their structures. Further, a POSITA would not understand these portions of the specifications to be clearly linked to the claimed functions of “initiating an inquiry” or “responding to the inquiry,” or to disclose sufficient structure for doing so. The specification itself never uses the word “initiates” or otherwise describes the process WSOU points to as “initiating” an inquiry. Instead, the specification refers to this process as performing the function of “sending” an inquiry by apparatus A, followed by the function of “acknowledging receipt” of the inquiry by apparatus B. These two specification functions are different than the claimed functions of “initiating” an inquiry and then “responding” to the inquiry. Moreover, WSOU does not identify any portion of the specification for structures or algorithms corresponding to the analogous “computer program code configured to” or “processor being configured to” claims. For these reasons, as well as those further discussed later in this declaration, it is my opinion that these claim terms lack any clearly linked, sufficient, corresponding structure or algorithm disclosed by the specification.

13. It is my understanding that WSOU may also assert that the “means for,” “computer program code configured to,” and/or “processor being configured to” claims should be given their plain and ordinary meaning and do not need to be construed at all. Relatedly, my understanding is that WSOU’s position may be that the claims themselves already disclose sufficient structure for performing the functions recited by these terms. I disagree, and a POSITA would not understand the specification to disclose sufficient structure for performing the recited functions. It is also my understanding that if a claim term begins with the phrase “means for,” then there is a presumption that the claim term has been claimed functionally, rather than disclosing its structure in the claims. My opinion is that a POSITA would understand the “means for” terms to be

functionally claimed, and that this presumption is not overcome. Further, as already discussed, a POSITA would also understand from the claim language that the “computer program code configured to” and “processor being configured to” claim terms were similarly functionally claimed, rather than disclosing structure for performing the claimed function in the claims themselves.

14. In my opinion, therefore, NEC’s proposed constructions for the following terms are correct, and WSOU’s proposed constructions are incorrect, for the reasons discussed in this declaration. This includes my opinion that these terms are “means-plus-function” or similar terms where the claim language does not disclose the structure for the claim term, requiring a POSITA to look to the specification. This includes my opinion that as I explain in this declaration, there is no clearly linked, sufficient, corresponding structure or algorithm disclosed by the specification, and that the structure that WSOU has identified for its assertion that there is a plain and ordinary meaning for these claim terms are incorrect. Because many of these terms have the same or very similar functional language, differing only by the initial language (*i.e.*, “means for,” “computer program code configured to,” and/or “processor being configured to”), I have grouped the claim terms having similar functional language accordingly, and discuss them together in this declaration.

15. Following are the “means for” and “computer program code configured to ...” terms for claims 8 and 22. As discussed above, NEC’s proposed constructions are correct, and WSOU’s proposed constructions are incorrect.

“Means for initiating an inquiry from an apparatus to at least one other apparatus” – ’213 Patent Claim 22	
“Computer program code configured to initiate an inquiry from an apparatus to at least one other apparatus” – ’213 Patent Claim 8	
NEC’s Construction	WSOU’s Construction

<p><i>Indefinite.</i></p> <p>“Means for …” and “computer program code configured to …” terms both governed by 35 U.S.C. § 112, ¶ 6.</p> <p><u>Function:</u> [initiating / initiate] an inquiry from an apparatus to at least one other apparatus.</p> <p><u>Structure/material/acts:</u> <i>No sufficient structure disclosed or clearly-linked; no specific hardware, software, program, algorithm, or steps.</i></p>	<p>“Means for initiating … apparatus”: Governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite.</p> <p><u>Function:</u> initiating an inquiry from an apparatus to at least one other apparatus.</p> <p><u>Structure/material/acts:</u> For example, apparatus A (1300) and process 1 of Fig. 13, <u>communications module 230 of Fig. 2, memory 330 and processor 300 of Figs. 3, 7A, 8A, 9A, or 11, software-defined radio module 1102 and software modules 1110-1118 of Fig. 12, and steps 1406-1412 of Fig. 14A</u>, and the corresponding portions of the specification at <u>6:17-30, 6:50-7:22, 8:60-9:5, 17:8-52, 18:4-60, 19:62-20:4, 21:1-3, and 21:15-42</u>, and equivalents thereof.</p> <p>“Computer program code configured to initiate … apparatus”: Not governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite. No construction necessary – plain and ordinary meaning.</p> <p><u>To the extent, however, that the Court treats the term as means-plus-function, the function and structure identified above (except that “processor 300” and “software-defined radio module 1102” were not identified for this term, and only 18:4-6 and 18:45-60 were identified (instead of 18:4-60)).</u></p>
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“Means for receiving remote characteristic information into the apparatus” – ’213 Patent Claim 22

“Computer program code configured to receive remote characteristic information into the apparatus” – ’213 Patent Claim 8

NEC’s Construction	WSOU’s Construction
<i>Indefinite.</i>	<p>“Means for receiving … apparatus”: Governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite.</p>

<p>“Means for …” and “computer program code configured to …” terms both governed by 35 U.S.C. § 112, ¶ 6.</p> <p><u>Function:</u> [receiving / to receive] remote characteristic information into the apparatus.</p> <p><u>Structure/material/acts:</u> <i>No sufficient structure disclosed or clearly-linked; no specific hardware, software, program, algorithm, or steps.</i></p>	<p><u>Function:</u> receiving remote characteristic information into the apparatus.</p> <p><u>Structure/material/acts:</u> For example, apparatus A (1300) and process 2 of Fig. 13, <u>communications module 230 of Fig. 2, memory 330 and processor 300 of Figs. 3, 7A, 8A, 9A, or 11, software-defined radio module 1102 and software modules 1110-1118 of Fig. 12, and step 1414 of Fig. 14A</u>, and the corresponding portions of the specification at <u>6:17-30, 6:50-7:22, 8:60-9:5, 17:8-52, 18:4-60, 20:4-24, 21:1-3, and 21:28-42</u>, and equivalents thereof.</p> <p><u>“Computer program code configured to receive … apparatus”:</u> Not governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite. No construction necessary – plain and ordinary meaning.</p> <p><u>To the extent, however, that the Court treats the term as means-plus-function, the function and structure identified above (except that “processor 300” and “software-defined radio module 1102” were not identified for this term, and only 18:4-6 and 18:45-60 were identified (instead of 18:4-60)).</u></p>
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“Means for determining local characteristic information in the apparatus” – ’213 Patent Claim 22	
“Computer program code configured to determine local characteristic information in the apparatus” – ’213 Patent Claim 8	
NEC’s Construction	WSOU’s Construction
<p><i>Indefinite.</i></p> <p>“Means for …” and “computer program code configured to …” terms both governed by 35 U.S.C. § 112, ¶ 6.</p>	<p><u>“Means for determining … apparatus”:</u> Governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite.</p>

<p><u>Function:</u> [determining / to determine] local characteristic information in the apparatus.</p> <p><u>Structure/material/acts:</u> <i>No sufficient structure disclosed or clearly-linked; no specific hardware, software, program, algorithm, or steps.</i></p>	<p><u>Function:</u> determining local characteristic information in the apparatus.</p> <p><u>Structure/material/acts:</u> For example, apparatus A (1300) and process 3 of Fig. 13, <u>communications module 230 of Fig. 2, memory 330 and processor 300 of Figs. 3, 7A, 8A, 9A, or 11, software-defined radio module 1102 and software modules 1110-1118 of Fig. 12, and step 1416 of Fig. 14A</u>, and the corresponding portions of the specification at <u>6:17-30, 6:50-7:22, 8:60-9:5, 17:8-52, 18:4-60, 20:25-35, 21:1-3, and 21:28-42</u>, and equivalents thereof.</p> <p><u>“Computer program code configured to determine ... apparatus”:</u> Not governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite. No construction necessary – plain and ordinary meaning.</p> <p><u>To the extent, however, that the Court treats the term as means-plus-function, the function and structure identified above (except that “processor 300” and “software-defined radio module 1102” were not identified for this term, and only 18:4-6 and 18:45-60 were identified (instead of 18:4-60)).</u></p>
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“Means for sending the configuration from the apparatus to the at least one other apparatus” – ’213 Patent Claim 22	
“Computer program code configured to send the configuration from the apparatus to the at least one other apparatus” – ’213 Patent Claim 8	
NEC’s Construction	WSOU’s Construction
<p><i>Indefinite.</i></p> <p>“Means for ...” and “computer program code configured to ...” terms both governed by 35 U.S.C. § 112, ¶ 6.</p> <p><u>Function:</u> [sending / to send] the configuration from the apparatus to the at least one other apparatus.</p>	<p><u>“Means for sending ... apparatus”:</u> Governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite.</p> <p><u>Function:</u> sending the configuration from the apparatus to the at least one other apparatus.</p>

<p><u>Structure/material/acts:</u> No sufficient structure disclosed or clearly-linked; no specific hardware, software, program, algorithm, or steps.</p>	<p><u>Structure/material/acts:</u> For example, apparatus A and process 5 of Fig. 13, <u>communications module 230 of Fig. 2, memory 330 and processor 300 of Figs. 3, 7A, 8A, 9A, or 11, software-defined radio module 1102 and software modules 1110-1118 of Fig. 12, and step 1420 of Fig. 14A</u>, and the corresponding portions of the specification at <u>6:17-30, 6:50-7:22, 8:60-9:5, 17:8-52, 18:4-60, 20:45-48, 21:1-3, and 21:48-56</u>, and equivalents thereof.</p> <p><u>“Computer program code configured to send ... apparatus”:</u> Not governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite. No construction necessary – plain and ordinary meaning.</p> <p><u>To the extent, however, that the Court treats the term as means-plus-function, the function and structure identified above (except that “processor 300” and “software-defined radio module 1102” were not identified for this term, and only 18:4-6 and 18:45-60 were identified (instead of 18:4-60)).</u></p>
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16. Following are the “means for,” “computer program code configured to,” and “the processor being configured to” terms for claims 24, 25, and 26. As discussed above, NEC’s proposed constructions are correct, and WSOU’s proposed constructions are incorrect.

“Means for receiving wireless communication in the apparatus” – ’213 Patent Claim 26
“Computer program code configured to receive wireless communication in an apparatus” – ’213 Patent Claim 24
“The processor being configured to receive wireless communication in an apparatus” – ’213 Patent Claim 25

NEC’s Construction	WSOU’s Construction
<p><i>Indefinite.</i></p> <p>“Means for ...,” and “computer program code configured to ...,” and “the processor being configured to ...” terms all governed by 35 U.S.C. § 112, ¶ 6.</p>	<p><u>“Means for receiving ... apparatus”:</u> Governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite.</p>

Function: [receiving / to receive] wireless communication in the apparatus.

Structure/material/acts: *No sufficient structure disclosed or clearly-linked; no specific hardware, software, program, algorithm, or steps.*

Function: receiving wireless communication in the apparatus.

Structure/material/acts: For example, apparatus B (1302) of Fig. 13 and process 1 of Fig. 13, communications module 230 of Fig. 2, memory 330 and processor 300 of Figs. 3, 7A, 8A, 9A, or 11, software-defined radio module 1102 and software modules 1110-1118 of Fig. 12, and step 1450 of Fig. 14B, and the corresponding portions of the specification at 6:17-30, 6:50-7:22, 8:60-9:5, 17:8-52, 18:4-6, 18:45-60, 19:67-20:1, and 20:4-8, and 22:11-25, and equivalents thereof.

“Computer program code configured to receive ... apparatus”: Not governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite. No construction necessary – plain and ordinary meaning.

To the extent, however, that the Court treats the term as means-plus-function, the function and structure identified above (except that “processor 300” and “software-defined radio module 1102” were not identified for this term).

“The processor being configured to receive ... apparatus”: Not governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite. No construction necessary – plain and ordinary meaning.

To the extent, however, that the Court treats the term as means-plus-function, the function and structure identified above.

“Means for if the wireless communication includes an inquiry requesting characteristic information, determining characteristic information” – ’213 Patent Claim 26

“Computer program code configured to if the wireless communication includes an inquiry requesting characteristic information, determine characteristic information” – ’213 Patent Claim 24

“The processor being configured to if the wireless communication includes an inquiry requesting characteristic information, determine characteristic information” – ’213 Patent Claim 25

NEC’s Construction	WSOU’s Construction
<p><i>Indefinite.</i></p> <p>“Means for ...,” and “computer program code configured to ...,” and “the processor being configured to ...” terms all governed by 35 U.S.C. § 112, ¶ 6.</p> <p><u>Function:</u> if the wireless communication includes an inquiry requesting characteristic information, [determining / determine] characteristic information.</p> <p><u>Structure/material/acts:</u> <i>No sufficient structure disclosed or clearly-linked; no specific hardware, software, program, algorithm, or steps.</i></p>	<p><u>“Means for if the wireless communication includes ... determining characteristic information”:</u> Governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite.</p> <p><u>Function:</u> if the wireless communication includes an inquiry requesting characteristic information, determining characteristic information.</p> <p><u>Structure/material/acts:</u> For example, apparatus B (1302) and processes 1 and 2 of Fig. 13, <u>communications module 230 of Fig. 2, memory 330 and processor 300 of Figs. 3, 7A, 8A, 9A, or 11, software-defined radio module 1102 and software modules 1110-1118 of Fig. 12, and steps 1452 and 1458 of Fig. 14B</u>, and the corresponding portions of the specification at <u>6:17-30, 6:50-7:22, 8:60-9:5, 17:8-52, 18:4-6, 18:45-60, 19:62-20:4, and 20:8-24, 22:11-15, and 22:26-35</u>, and equivalents thereof.</p> <p><u>“Computer program code configured to if the wireless communication includes ... determine characteristic information”:</u> Not governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite. No construction necessary – plain and ordinary meaning.</p> <p><u>To the extent, however, that the Court treats the term as means-plus-function, the function and structure identified above (except that “processor 300” and “software-defined radio module 1102” were not identified for this term).</u></p> <p><u>“The processor being configured to if the wireless communication includes ... determine characteristic information”:</u> Not governed by 35 U.S.C. § 112, ¶ 6. This term is</p>

	not indefinite. No construction necessary – plain and ordinary meaning.
	<u>To the extent, however, that the Court treats the term as means-plus-function, the function and structure identified above.</u>

“Means for responding to the inquiry, the response comprising the characteristic information” – ’213 Patent Claim 26	
“Computer program code configured to respond to the inquiry, the response comprising the characteristic information” – ’213 Patent Claim 24	
“The processor being configured to respond to the inquiry, the response comprising the characteristic information” – ’213 Patent Claim 25	
NEC’s Construction	WSOU’s Construction
<i>Indefinite.</i> “Means for ...,” and “computer program code configured to ...,” and “the processor being configured to ...” terms all governed by 35 U.S.C. § 112, ¶ 6.	<u>“Means for responding ... characteristic information”</u> : Governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite. Function: responding to the inquiry, the response comprising the characteristic information. <u>Structure/material/acts</u> : For example, apparatus B (1302) and process 2 of Fig. 13, <u>communications module 230 of Fig. 2, memory 330 and processor 300 of Figs. 3, 7A, 8A, 9A, or 11, software-defined radio module 1102 and software modules 1110-1118 of Fig. 12, and step 1460 of Fig. 14B</u> , and the corresponding portions of the specification at <u>6:17-30, 6:50-7:22, 8:60-9:5, 17:8-52, 18:4-6, 18:45-60, 20:4-824, 22:11-15, and 22:35-55</u> , and equivalents thereof.
<u>Function</u> : [responding / to respond] to the inquiry, the response comprising the characteristic information.	<u>“Computer program code configured to respond ... characteristic information”</u> : Not governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite. No construction necessary – plain and ordinary meaning.
<u>Structure/material/acts</u> : <i>No sufficient structure disclosed or clearly-linked; no specific hardware, software, program, algorithm, or steps.</i>	<u>To the extent, however, that the Court treats the</u>

	<p><u>term as means-plus-function, the function and structure identified above (except that “processor 300” and “software-defined radio module 1102” were not identified for this term).</u></p> <p><u>“The processor being configured to respond ... characteristic information”:</u> Not governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite. No construction necessary – plain and ordinary meaning.</p> <p><u>To the extent, however, that the Court treats the term as means-plus-function, the function and structure identified above.</u></p>
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“Means for receiving further wireless communication in the apparatus, the further wireless communication including a configuration” – ’213 Patent Claim 26

“Computer program code configured to receive further wireless communication including a configuration, the further wireless communication including a configuration” – ’213 Patent Claim 24

“The processor being configured to receive further wireless communication in the apparatus, the further wireless communication including a configuration” – ’213 Patent Claim 25

NEC’s Construction	WSOU’s Construction
<p><i>Indefinite.</i></p> <p>“Means for ...,” and “computer program code configured to ...,” and “the processor being configured to ...” terms all governed by 35 U.S.C. § 112, ¶ 6.</p> <p><u>Function:</u> [receiving / to receive] further wireless communication in the apparatus, the further wireless communication including a configuration.</p> <p><u>Structure/material/acts:</u> <i>No sufficient structure disclosed or clearly-linked; no specific hardware, software, program, algorithm, or steps.</i></p>	<p><u>“Means for receiving ... configuration”:</u> Governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite.</p> <p><u>Function:</u> receiving further wireless communication in the apparatus, the further wireless communication including a configuration.</p> <p><u>Structure/material/acts:</u> For example, apparatus B (1302) and process 5 of Fig. 13, <u>communications module 230 of Fig. 2, memory 330 and processor 300 of Figs. 3, 7A, 8A, 9A, or 11, software-defined radio module 1102 and software modules 1110-1118 of Fig. 12, and</u></p>

	<p><u>step 1462 of Fig. 14B</u>, and the corresponding portions of the specification at <u>6:17-30, 6:50-7:22, 8:60-9:5, 17:8-52, 18:4-6, 18:45-60, 20:45-48, 22:11-15, 22:37-46, and 22:56-59</u>, and equivalents thereof.</p> <p><u>“Computer program code configured to receive ... configuration”</u>: Not governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite. No construction necessary – plain and ordinary meaning.</p> <p><u>To the extent, however, that the Court treats the term as means-plus-function, the function and structure identified above (except that “processor 300” and “software-defined radio module 1102” were not identified for this term).</u></p> <p><u>“The processor being configured to receive ... configuration”</u>: Not governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite. No construction necessary – plain and ordinary meaning.</p> <p><u>To the extent, however, that the Court treats the term as means-plus-function, the function and structure identified above.</u></p>
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III. ANALYSIS OF U.S. PATENT NO. 8,103,213

A. **Construction of the Disputed “Means For,” “Computer Program Code Configured To,” and “The Processor Being Configured To” Claim Terms**

1. **Discussion of Patent Claims 8 and 22**

17. Patent claims 8 and 22 together have seven pairs of claim terms where each pair is written in substantially identical functional language. The first term of the pair from claim 22 recites “means for” performing the specified function, and the second term of the pair from claim 8 recites “computer program code configured to” perform the specified function. Because of this overlap, I discuss these two claims and their seven pairs of claim terms below.

- (a) “means for initiating an inquiry from an apparatus to at least one other apparatus” and “computer program code configured to initiate an inquiry from an apparatus to at least one other apparatus”

“Means for initiating an inquiry from an apparatus to at least one other apparatus” – ’213 Patent Claim 22

“Computer program code configured to initiate an inquiry from an apparatus to at least one other apparatus” – ’213 Patent Claim 8

NEC’s Construction	WSOU’s Construction
<p><i>Indefinite.</i></p> <p>“Means for …” and “computer program code configured to …” terms both governed by 35 U.S.C. § 112, ¶ 6.</p> <p><u>Function:</u> [initiating / initiate] an inquiry from an apparatus to at least one other apparatus.</p> <p><u>Structure/material/acts:</u> <i>No sufficient structure disclosed or clearly linked; no specific hardware, software, program, algorithm, or steps.</i></p>	<p><u>“Means for initiating ... apparatus”:</u> Governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite.</p> <p><u>Function:</u> initiating an inquiry from an apparatus to at least one other apparatus.</p> <p><u>Structure/material/acts:</u> For example, apparatus A (1300) and process 1 of Fig. 13, <u>communications module 230 of Fig. 2, memory 330 and processor 300 of Figs. 3, 7A, 8A, 9A, or 11, software-defined radio module 1102 and software modules 1110-1118 of Fig. 12, and steps 1406-1412 of Fig. 14A</u>, and the corresponding portions of the specification at <u>6:17-30, 6:50-7:22, 8:60-9:5, 17:8-52, 18:4-60, 19:62-20:4, 21:1-3, and 21:15-42</u>, and equivalents thereof.</p> <p><u>“Computer program code configured to initiate ... apparatus”:</u> Not governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite. No construction necessary – plain and ordinary meaning.</p> <p><u>To the extent, however, that the Court treats the term as means-plus-function, the function and structure identified above (except that “processor 300” and “software-defined radio module 1102” were not identified for this term, and only 18:4-6 and 18:45-60 were identified (instead of 18:4-60)).</u></p>

18. My understanding is that NEC and WSOU agree that of these related terms, the term “means for initiating an inquiry from an apparatus to at least one other apparatus” is a means plus function term subject to 35 U.S.C. § 112, ¶ 6. This requires an analysis of what a POSITA would identify is the specified function from the claims, as well as the corresponding structure for performing that function from the specification. My understanding is that NEC and WSOU agree that the specific function is “initiating an inquiry from an apparatus to at least one other apparatus.” However, my understanding is that NEC’s position is that there is no sufficient corresponding, clearly-linked structure, material, or acts for performing this function, and that it is therefore indefinite. WSOU, on the other hand, had initially proposed that the corresponding specification structure is:

For example, apparatus A (1300) and process 1 of Fig. 13, and the corresponding portions of the specification at 19:62-20:4, and equivalents thereof.

As I explain below, a POSITA would not find that this portion of the specification identified by WSOU is clearly linked, sufficient structure for performing the specified function. As a result, a POSITA would find this “means for …” term to be indefinite.

19. Because NEC and WSOU agree that this “means for …” term is subject to construction under 35 U.S.C. § 112, ¶ 6, I have looked to the specification to see if it clearly links any corresponding, sufficient structure for performing the recited function of “initiating an inquiry from an apparatus to at least one other apparatus.” The specification does not recite any corresponding, sufficient, or clearly linked structure for performing this function. To begin, “initiating an inquiry” from an apparatus to another apparatus is a very specific function. A POSITA would understand that “initiating” is more specific than just transmitting or receiving information between apparatuses. Further, a POSITA would understand that “an inquiry” is a

specific request for information, and not just any communication that might be sent between the apparatuses. However, the specification does not identify any structure of an apparatus that performs this initiation of an inquiry. The first place the specification refers to an “inquiry” in the context of an apparatus sending an inquiry is at ’213 patent at 4:61–64, which states:

In an example implementation, an apparatus may desire to communicate with another apparatus. In order to configuration [sic], the apparatus may first make an inquiry to the other device utilizing a initialization channel.

This very brief portion of the specification does not identify any specific structure of the apparatus that initiates the inquiry. Instead, this portion simply says that functionally, an apparatus “may make an inquiry” to another device utilizing a certain type of communication channel. A POSITA would not understand this portion to disclose any structure for “initiating an inquiry from an apparatus to at least one other apparatus.” The second portion of the specification where an inquiry is discussed is at ’213 patent at 19:67–20:4, which states:

[A]pparatus A 1300 may send a wireless inquiry to apparatus B 1302. The wireless inquiry may be sent, for example, utilizing a channel (e.g., an initialization channel) that is known to (e.g., predefined or predetermined) each apparatus.

Once again, a POSITA would not understand this very brief portion to disclose, much less clearly link, any particular structure for performing the function of “initiating an inquiry from an apparatus to at least one other apparatus.” Further, this portion does not disclose any structure that is sufficient to actually perform this function. Nothing in the specification describes what initiates the inquiry, how the inquiry is initiated, or what the inquiry even is. At most, the above portion discloses that any inquiry may be transmitted over a wireless communications channel, such as an initialization channel. But a POSITA would understand that this channel is merely a transmission medium. The channel itself is not any specific structure, hardware, software, algorithm, computer program code, instructions, or special-purpose processor for performing this function, nor is it part

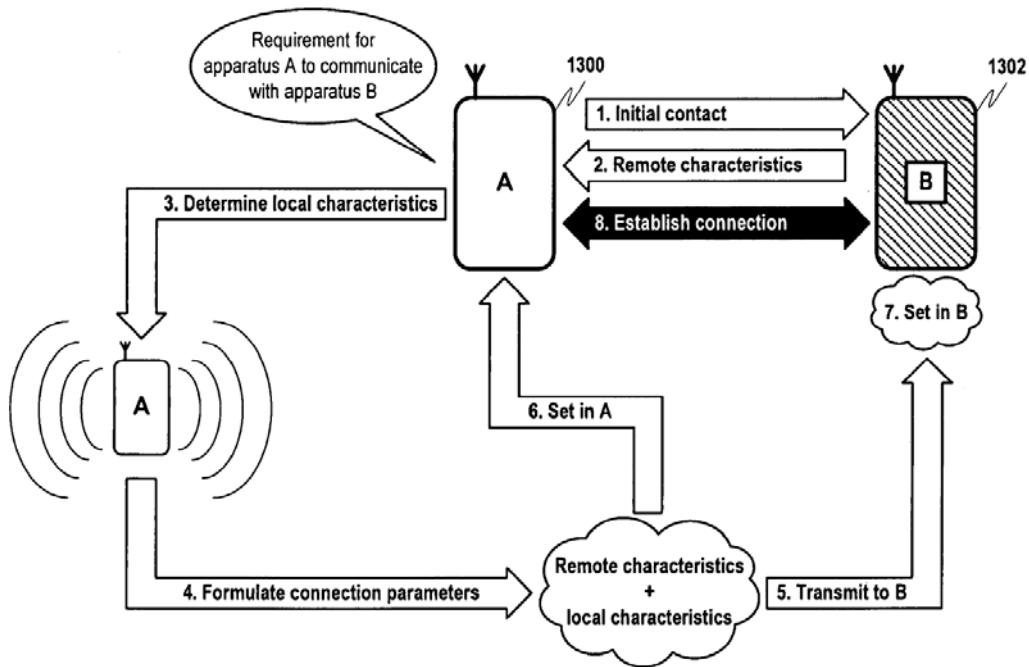
of the apparatus. Further, the channel itself is not part of the apparatus. The channel itself does not initiate the inquiry or perform the claimed function of “initiating an inquiry from an apparatus to at least one other apparatus.” Instead, a POSITA would understand that initiating the inquiry is done by some part of the apparatus that is performing this initiation function. Because the specification does not disclose or clearly link sufficient structure for performing this specific function, a POSITA would find that the claim term “means for initiating an inquiry from an apparatus to at least one other apparatus” is indefinite.

20. This indefiniteness is further confirmed by WSOU’s proposed construction of the corresponding structure. As noted above, WSOU initially proposed the following as corresponding structure:

For example, apparatus A (1300) and process 1 of Fig. 13, and the corresponding portions of the specification at 19:62-20:4, and equivalents thereof.

The specification does not clearly link this structure to performing the claimed function, and this structure is not sufficient to perform the claimed function. In Fig. 13, “Apparatus A” is drawn as a rectangle with the letter “A” in the center. There is no explanation of what happens inside of the box labeled “A,” and there is no discussion about what feature, code, algorithm, or portion of “A” might initiate an inquiry and how it might do so. Box “A” does not provide corresponding *structure* to perform the specific function of “initiating an inquiry from an apparatus to at least one other apparatus.” Further, the claim language at issue already states that the “apparatus” comprises “means for initiating an inquiry from an apparatus to at least one other apparatus.” WSOU’s proposed identification of box “A” as corresponding structure is merely redundant of the functional claim language used, i.e., an apparatus for initiating an inquiry from an apparatus to at least one other apparatus. A POSITA would not understand box “A” to be clearly linked structure for performing this “initiating an inquiry” function. Indeed, a POSITA would not find box “A” to

provide *structure*. It is instead a graphical placeholder for structure that the patent never identifies. As a result, the specification’s “Apparatus A” is not sufficient to perform the claimed function, because there is no disclosure of the required hardware, software, algorithms, or other structure of Apparatus A that is sufficient to perform this claimed function. WSOU’s proposed corresponding structure also identifies “process 1 of Fig. 13, and the corresponding portions of the specification at 19:62-20:4.” However, I already discussed above this portion of the specification, which only recites that “apparatus A 1300 may send a wireless inquiry to apparatus B 1302,” without disclosing any specific structure, hardware, software, algorithm, computer program code, instructions, or special-purpose processor for doing so. Figure 13, reproduced below, is similarly high-level and fails to provide any meaningful structural detail for what actually happens inside of box “A.”



WSOU’s proposal also is incorrect because it appears to identify the entirety of Figure 13. At most, it is only the portion “1. Initial contact” that a POSITA might look to in seeking to understand how the inventors proposed to “initiat[e] an inquiry from an apparatus to at least one other

apparatus.” But Figure 13 and the portion labeled “1. Initial contact” fail to disclose any particular or detailed structure for performing this specific function. Instead, this Figure again only discloses Apparatus A as a black box (indeed, an empty box) at a high level, and discloses only functions that the apparatus may perform but not any specific structure or detail as to how to perform those functions. For all of these reasons, a POSITA would not understand Figure 13, and the corresponding portions of the specification at 19:62-20:4, to disclose corresponding, clearly-linked, sufficient structure for performing the claimed function. Because there is no corresponding, clearly-linked, sufficient structure to “initiat[e] an inquiry from an apparatus to at least one other apparatus, a POSITA would conclude that the claim term “means for initiating an inquiry from an apparatus to at least one other apparatus term” is indefinite.

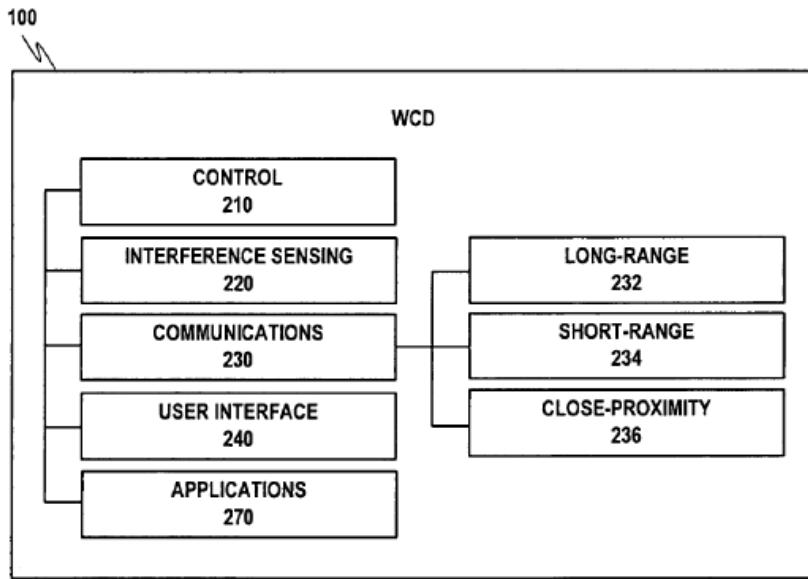
21. I was informed that WSOU has said that it has supplemented its initial proposed structure identified above with the following additional proposed structure indicated in red below:

Structure/material/acts: For example, apparatus A (1300) and process 1 of Fig. 13, communications module 230 of Fig. 2, memory 330 and processor 300 of Figs. 3, 7A, 8A, 9A, or 11, software-defined radio module 1102 and software modules 1110-1118 of Fig. 12, and steps 1406-1412 of Fig. 14A, and the corresponding portions of the specification at 6:17-30, 6:50-7:22, 8:60-9:5, 17:8-52, 18:4-60, 19:62-20:4, 21:1-3, and 21:15-42, and equivalents thereof.

However, a POSITA would still find this claim term indefinite, because the specification does not clearly link this additional structure to performing the claimed function, and this structure is not sufficient to perform the claimed function. Although the term “inquiry” appears in the ’213 patent 30 times, it appears only twice in the new disclosures, at 21:28-32: “If the other apparatus acknowledges the connection request, then in step 1412 an *inquiry* may be sent to the other apparatus. The *inquiry* may request, or trigger the provision of remote characteristic information from the other apparatus.” This too fails to disclose anything about how to “initiate” the inquiry, nor does it identify what hardware, software, computer program code, algorithms, steps,

instructions, or other structure does so. Figure 2, which WSOU also identifies and is shown below, similarly does not provide any detail or information about any structure that performs this “initiating an inquiry” function.

FIG. 2



As shown above, Figure 2 shows certain generic components as a “black box,” including communications module 230. But Figure 2 does not identify which components, if any, perform the “initiating an inquiry” function, much less how they do so. Similarly, Figures 3, 7A (shown below), 8A, 9A, and 11 (also shown below), which WSOU also identifies, show certain generic components as a “black box,” including memory 330 and processor 300, but do not identify which components, if any, perform the “initiating an inquiry” function or how.

FIG. 7A

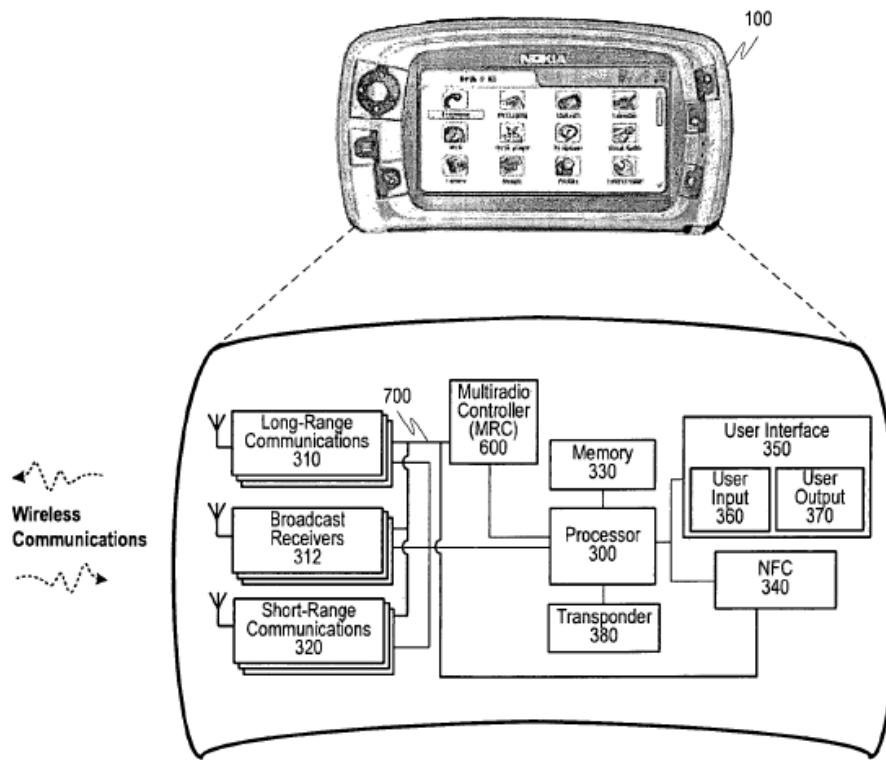
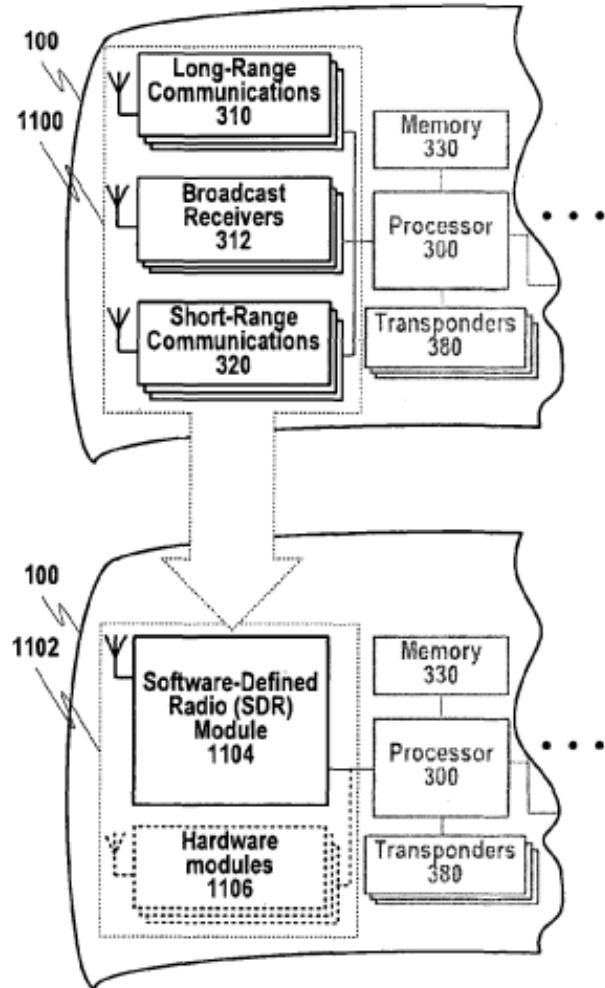
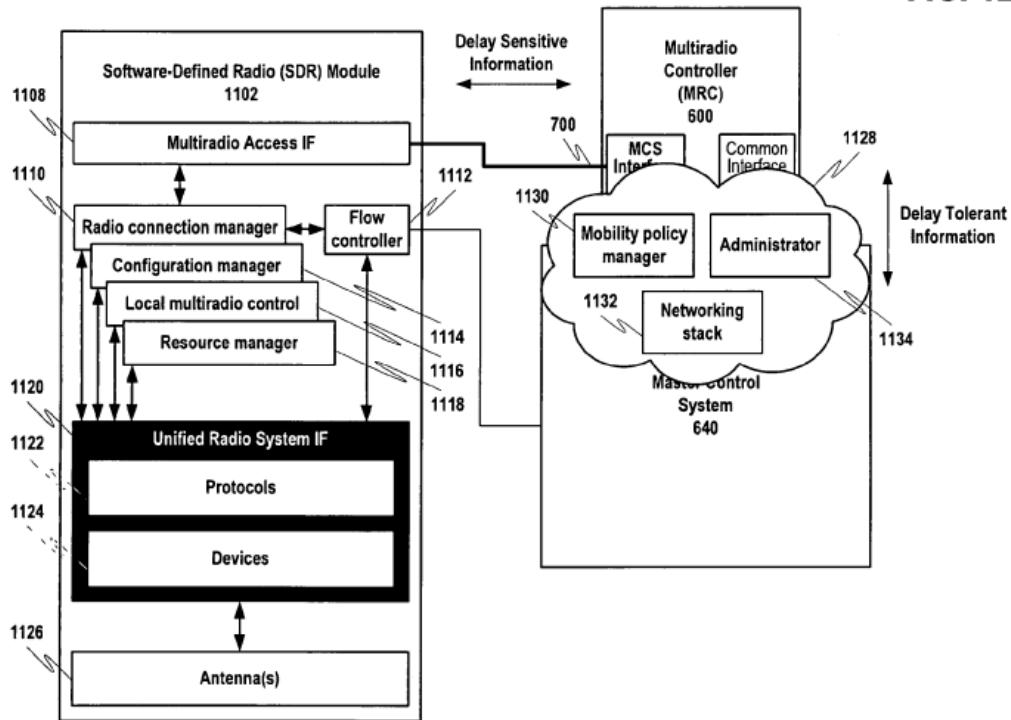


FIG. 11

Further, Figure 12 and its disclosure of SDR 1102, reproduced below, similarly do not disclose that SDR 1102 performs this “initiating an inquiry” function, or any hardware, software, algorithms, steps, computer program code, instructions, or other structure for doing so.

FIG. 12

As shown above, the example of Software-Defined Radio Module 1102 in Figure 12 has a Multiradio Access IF 1108, certain “manager” modules 1110, a “flow controller” 1112, a “Unified Radio System IF” 1120 having Protocols 1122 and Devices 1124, and one or more Antennas 1126. None of these sub-components is disclosed or linked by the specification to “initiating an inquiry from an apparatus to at least one other apparatus.” *See* '213 patent at 18:9–60 (describing these components). A POSITA would not understand from the specification that SDR 1102 of Figure 12 performs this “initiating an inquiry” function, or that the SDR has sufficient structure to do so for the different examples and embodiments disclosed.

22. WSOU’s identification of a software defined radio (SDR) as part of the corresponding structure for this “means for” terms raises an additional definiteness problem to a POSITA. In general, an SDR is a type of radio in which software defines how the radio communicates, such as which communications protocol to emulate. As an example, using some

of the exemplary communications protocols from the '213 patent specification, and SDR might be able to communicate using two or more of the long-range communications protocols (GSM, WCDMA, GPRS, PCS, or WiMax.) '213 patent at 7:23–47 and Fig. 3. In order to do so, however, the SDR would need to have particular software, including specific algorithms, in order to be programmed and configured to communicating using each long-range communications protocols or standards, as well as to switch between one protocol or standard to another for communications. It is this software that distinguishes the SDR from a more traditional radio only able to communicate using one communications protocol or standard. But the specification does not disclose any specific software, algorithms, instructions, or other specific structure as is needed for an SDR to perform the claimed function, nor does it disclose any examples of any such software, algorithms, or instructions for any of the identified long-range, short-range, broadcast, or close proximity communications technologies. Further, there are many different ways, algorithms, instructions, and other structures that a POSITA could use to program an SDR to carry out these different communications technologies. As a result, all the specification discloses is a black box, general-purpose SDR having no specific structure and incapable of communicating using any of the identified long-range, short-range, broadcast, or close-proximity communications technologies. My understanding is that for definiteness, the specification must disclose specific structure, including for software-implemented inventions and processing specific software, algorithms, and instructions, for there to be a special-purpose processor or structure (here, and SDR) that is sufficient to carry out the specified function here of “initiating an inquiry from an apparatus to at least one other apparatus.” Because there is no such disclosure or clear-linking of any specific software, algorithms, or instructions, then even under WSOU’s proposal that the corresponding structure includes an SDR, a POSITA would still find this claim term indefinite.

And, as I have already discussed, the specification does not clearly link an SDR to the specified function here of “initiating an inquiry from an apparatus to at least one other apparatus,” so a POSITA would not view an SDR as corresponding, clearly-linked, or sufficient structure for this function.

23. I also understand that NEC asserts the similar claim term reciting “computer program code configured to initiate an inquiry from an apparatus to at least one other apparatus” does not identify specific structure for performing the recited function of “initiate an inquiry from an apparatus to at least one other apparatus.” Here, while the words “means for” are not used, the term “computer program code configured to” would be recognized by a POSITA as a nonstructural nonce phrase. And, because the claim limitation is set forth in functional language without the identification of sufficient structure to perform the claimed function, I understand that the term is to be construed subject to 35 U.S.C. § 112, ¶ 6. I understand that NEC’s position is that this term is subject to 35 U.S.C. § 112, ¶ 6, but is indefinite because there is no specification structure that is clearly linked, sufficient to perform, or corresponds to this function. I agree with NEC that a POSITA would not find the claim language reciting “computer program code being configured to ...” to be specific structure, material, or acts for performing the claimed function. The claim merely suggests that computer code might be used to achieve the claimed function, but it does not identify any such computer code, or even the algorithm(s) that might be implemented using computer code. The claim’s general recitation of “computer program code” does not identify any specific algorithm, steps, instructions, method, or computer program code for performing the recited function. A POSITA would find this claim language to be a generic recitation of a function to be performed by some unspecified computer program code. As a result, a POSITA would recognize that this “computer program code configured to ...” is to be construed under 35 U.S.C.

§ 112, ¶ 6. In other words, to understand this claim term, a POSITA would look to the specification for any corresponding, clearly-linked sufficient structure to achieve the claimed function. As discussed above, there is none and a POSITA would find that this term is indefinite. Specifically, the specification does not disclose any specific computer program code, algorithms, steps, or instructions for performing this function. As I have explained above for the similar “means for ...” term, the specification does not disclose any corresponding, clearly-linked, or sufficient computer program code (including any specific instructions, algorithms, or steps) that acts as “computer program code configured to initiate an inquiry from an apparatus to at least one other apparatus.” Also, WSOU’s proposed construction does not identify any specific computer program code (e.g., specific algorithms, methods, or instructions) for performing the claimed function. As a result, in light of the specification, a POSITA would find the claim term reciting “computer program code configured to initiate an inquiry from an apparatus to at least one other apparatus” does not reasonably inform a POSITA of what specific computer program code performs the recited, specific function. This claim term is therefore indefinite.

- (b) **“means for receiving remote characteristic information into the apparatus” and “computer program code configured to receive remote characteristic information into the apparatus”**

“Means for receiving remote characteristic information into the apparatus” – ’213 Patent Claim 22	
“Computer program code configured to receive remote characteristic information into the apparatus” – ’213 Patent Claim 8	
NEC’s Construction	WSOU’s Construction
<i>Indefinite.</i> “Means for ...” and “computer program code configured to ...” terms both governed by 35 U.S.C. § 112, ¶ 6.	<u>“Means for receiving ... apparatus”:</u> Governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite. <u>Function:</u> receiving remote characteristic information into the apparatus.

<p><u>Function:</u> [receiving / to receive] remote characteristic information into the apparatus.</p> <p><u>Structure/material/acts:</u> <i>No sufficient structure disclosed or clearly-linked; no specific hardware, software, program, algorithm, or steps.</i></p>	<p><u>Structure/material/acts:</u> For example, apparatus A (1300) and process 2 of Fig. 13, <u>communications module 230 of Fig. 2, memory 330 and processor 300 of Figs. 3, 7A, 8A, 9A, or 11, software-defined radio module 1102 and software modules 1110-1118 of Fig. 12, and step 1414 of Fig. 14A</u>, and the corresponding portions of the specification at <u>6:17-30, 6:50-7:22, 8:60-9:5, 17:8-52, 18:4-60, 20:4-24, 21:1-3, and 21:28-42</u>, and equivalents thereof.</p> <p><u>“Computer program code configured to receive ... apparatus”:</u> Not governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite. No construction necessary – plain and ordinary meaning.</p> <p><u>To the extent, however, that the Court treats the term as means-plus-function, the function and structure identified above (except that “processor 300” and “software-defined radio module 1102” were not identified for this term, and only 18:4-6 and 18:45-60 were identified (instead of 18:4-60)).</u></p>
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24. My understanding is that NEC and WSOU agree that of these related terms, the term “means for receiving remote characteristic information into the apparatus” is a means plus function term subject to 35 U.S.C. § 112, ¶ 6. This requires an analysis of what a POSITA would identify is the specified function from the claims, as well as the corresponding structure for performing that function from the specification. My understanding is that NEC and WSOU agree that the specific function is “receiving remote characteristic information into the apparatus.” However, my understanding is that NEC’s position is that there is no sufficient corresponding, clearly-linked structure, material, or acts for performing this function, and that it is therefore indefinite. WSOU, on the other hand, had initially proposed that the corresponding specification structure is:

For example, apparatus A (1300) and process 2 of Fig. 13, and the corresponding portions of the specification at 20:4-24, and equivalents thereof.

As I explain below, a POSITA would not find that this portion of the specification identified by WSOU is clearly linked, sufficient structure for performing the specified function. As a result, a POSITA would find this “means for …” term to be indefinite.

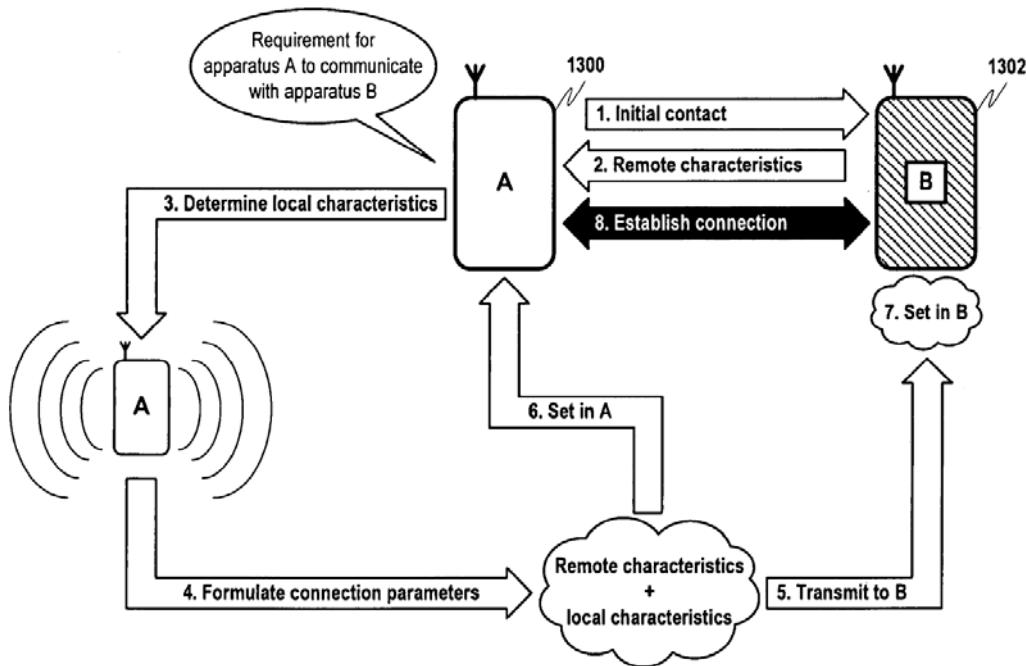
25. Because NEC and WSOU agree that this “means for …” term is subject to 35 U.S.C. § 112, ¶ 6, I have looked to the specification to see if it clearly links any corresponding, sufficient structure for performing the recited function of “receiving remote characteristic information into the apparatus.” The specification does not recite any corresponding, sufficient, or clearly linked structure for performing this function. A POSITA would understand that “receiving remote characteristic information into the apparatus” is a specific type of function for receiving a specific type of information rather than simply receiving any and all information that might be received by the apparatus. However, the specification does not identify any structure of an apparatus that performs this receipt of remote characteristic information. The specification itself does not use the phrase “receiving remote characteristic information” or otherwise identify any specific structure for receiving remote characteristic information from another device into the apparatus. Instead, the specification at most discloses generic components (e.g., that the Apparatus A has an antenna and radios for receiving wireless communications) that may receive wireless information generally. A POSITA would not understand the specification to disclose, much less clearly link, any particular structure for performing the function of “receiving remote characteristic information into the apparatus.” Because the specification does not disclose or clearly link sufficient structure for performing this specific function, a POSITA would find that the claim term “means for receiving remote characteristic information into the apparatus” is indefinite.

26. This indefiniteness is further confirmed by WSOU’s proposed construction of the corresponding structure. As noted above, WSOU initially proposed the following as corresponding structure:

For example, apparatus A (1300) and process 2 of Fig. 13, and the corresponding portions of the specification at 20:4-24, and equivalents thereof.

The specification does not clearly link this structure to performing the claimed function, and this structure is not sufficient to perform the claimed function. In Fig. 13, “Apparatus A” is drawn as a rectangle with the letter “A” in the center. There is no explanation of what happens inside of the box labeled “A,” and there is no discussion about what feature, code, algorithm, or portion of “A” might receive remote characteristic information into the apparatus. Box “A” does not provide corresponding *structure* to perform the specific function of “receiving remote characteristic information into the apparatus.” Further, the claim language at issue already states that the “apparatus” comprises this “means for …” claim limitation, so WSOU’s proposed identification of box “A” as corresponding structure is merely redundant of the claim language used, i.e., an apparatus for receiving remote characteristic information into the apparatus. A POSITA would not understand box “A” to be clearly linked structure for performing this “receiving remote characteristic information” function. Indeed, a POSITA would not find box “A” to provide *structure*. It is instead a graphical placeholder for structure that the patent never specifically identifies. As a result, the specification’s “Apparatus A” is not sufficient to perform the claimed function, because there is no disclosure of the required hardware, software, algorithms, steps, computer program code, instructions, or other structure of Apparatus A that is sufficient to perform this claimed function. WSOU’s proposed corresponding structure also identifies “process 2 of Fig. 13, and the corresponding portions of the specification at 20:4-24.” Figure 13, reproduced below, is high-level and black box, without any meaningful structural detail. Although process 2

discloses “remote characteristics” being transmitted by Apparatus B and being received by Apparatus A, this figure does not disclose any specific structure, hardware, software, algorithms, steps, computer program code, or instructions for performing this function. Instead, a POSITA would understand Figure 13 to simply be disclosing a functional description that remote characteristics are transmitted by Apparatus B and received by Apparatus A.



WSOU’s proposal also is incorrect because it appears to identify the entirety of Figure 13. At most, it is only the portion “2. Remote characteristics” that a POSITA might look to in seeking to understand how the inventors proposed to “receiv[e] remote characteristic information into the apparatus.” But, as already discussed, Figure 13 and the portion labeled “2. Remote characteristics” does not disclose any particular or detailed structure for performing this specific function. WSOU’s proposed construction also identifies the ’213 patent at 20:4-24, which states (with emphasis added):

*Apparatus B 1302 may acknowledge receipt of the inquiry from apparatus A 1300, and **may in turn respond with one or more messages** accepting the invitation to communicate and **containing***

remote characteristics. Remote characteristics comprise information related to the apparatus with which communication is desired 10 (e.g., apparatus B 1302), and may include information regarding apparatus status and/or environmental conditions proximate to the apparatus. For instance, apparatus status information may include apparatus communication capabilities and/or preferences, current apparatus power condition, current apparatus operational condition, current communication activity including transports active in the apparatus and a number of messages pending for each active transport, etc. Information pertaining to environmental conditions may include signals sensed in proximity to the apparatus that may potentially cause interference, communication scheduled in the apparatus, the identification of other apparatuses operating in proximity, etc. ***Some or all of this information may be provided in response to the inquiry of apparatus A 1300.***

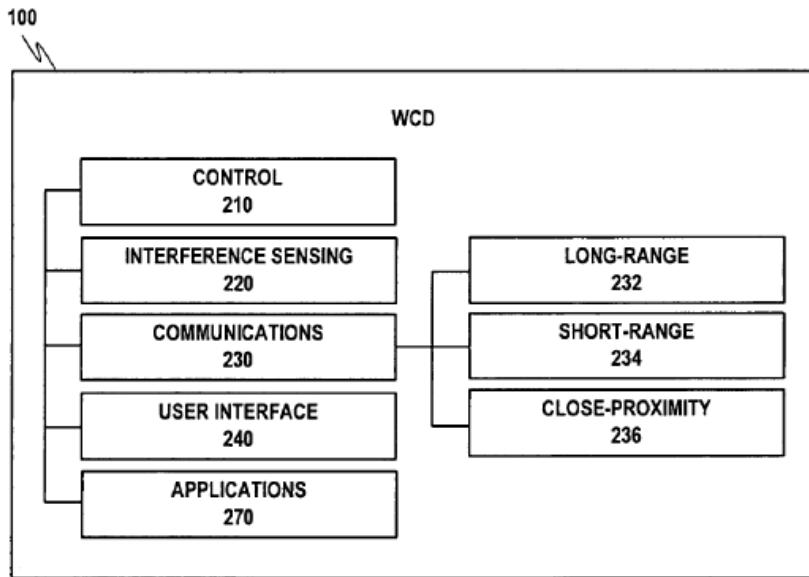
None of the above passage identifies any structure, by which Apparatus A, which is the receiving apparatus, receives into itself the remote characteristic information sent by Apparatus B. At most, the bolded portion shown above only repeats that functionally, i.e., Apparatus B sends remote characteristic information to Apparatus A. Further, most of this passage has nothing at all to do with the specific recited function of “receiving remote characteristic information into the apparatus.” Instead, this passage largely consists of certain examples of what remote characteristic information might be. This passage also does not disclose any structure sufficient for actually receiving remote characteristic information by Apparatus A. In summary, the passage that WSOU points to in its proposed construction does not disclose any specific hardware, software, algorithms, steps, computer program code, instructions, or other structure that performs this function which is sufficient, or clearly link any such structure to the function of “receiving remote characteristic information into the apparatus.” For all of these reasons, a POSITA would not understand Figure 13, and the corresponding portions of the specification at 20:4-24, to disclose corresponding, clearly-linked, sufficient structure for performing the claimed function. Because there is no corresponding, clearly-linked, sufficient structure to “receiv[e] remote characteristic

information in the apparatus,” a POSITA would conclude that the claim term “means for receiving remote characteristic information into the apparatus” is indefinite.

27. I was informed that WSOU has said that it has supplemented its initial proposed structure identified above with the following additional proposed structure indicated in red below:

Structure/material/acts: For example, apparatus A (1300) and process 2 of Fig. 13, communications module 230 of Fig. 2, memory 330 and processor 300 of Figs. 3, 7A, 8A, 9A, or 11, software-defined radio module 1102 and software modules 1110-1118 of Fig. 12, and step 1414 of Fig. 14A, and the corresponding portions of the specification at 6:17-30, 6:50-7:22, 8:60-9:5, 17:8-52, 18:4-60, 20:4-24, 21:1-3, and 21:28-42, and equivalents thereof.

However, a POSITA would still find this claim term indefinite, because the specification does not clearly link this additional structure to performing the claimed function, and this structure is not sufficient to perform the claimed function. Although the term “remote” appears in the ’213 patent 32 times, it appears in only one paragraph of the new disclosures, at 21:30-42: *e.g.*, “If *remote* characteristic information is not received in step 1414, then a determination may be made in step 1408 as to whether the wireless connection was lost.” This too fails to disclose anything about how to “receive” the remote characteristic information into the apparatus, nor does it identify what hardware, software, computer program code, algorithms, steps, instructions, or other structure does so. Figure 2, which WSOU also identifies and is shown below, similarly does not provide any detail or information about any structure that performs this “receiving remote characteristic information” function.

FIG. 2

As shown above, Figure 2 shows certain generic components as a “black box,” including communications module 230. But Figure 2 does not identify which components, if any, perform the “receiving remote characteristic information” function, much less how they do so. Similarly, Figures 3, 7A (shown below), 8A, 9A, and 11 (also shown below), which WSOU also identifies, show certain generic components as a “black box,” including memory 330 and processor 300, but do not identify which components, if any, perform the “receiving remote characteristic information” function or how.

FIG. 7A

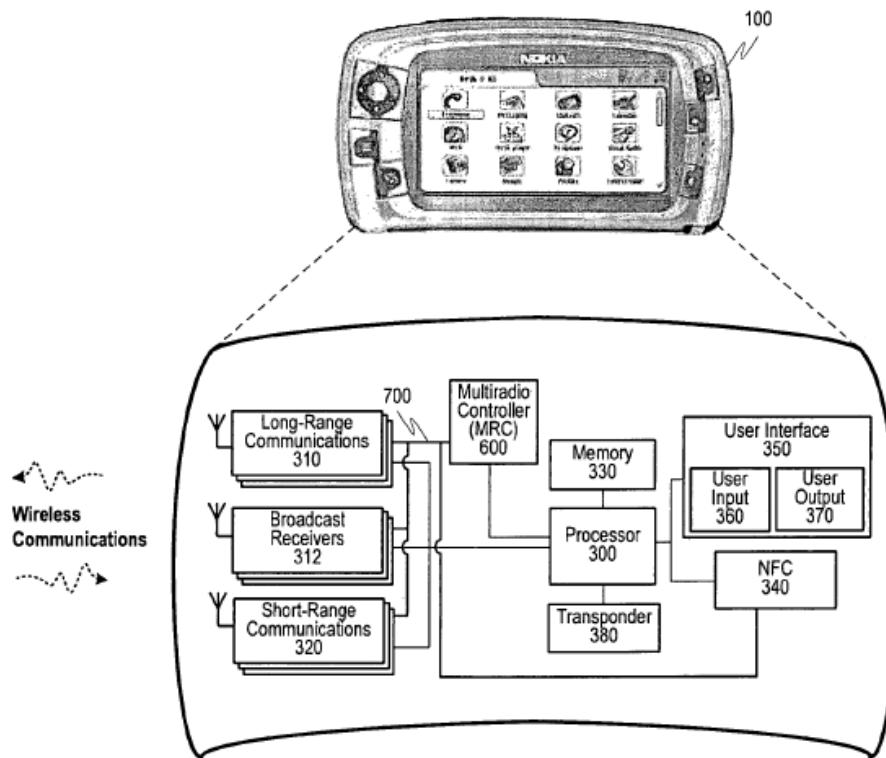
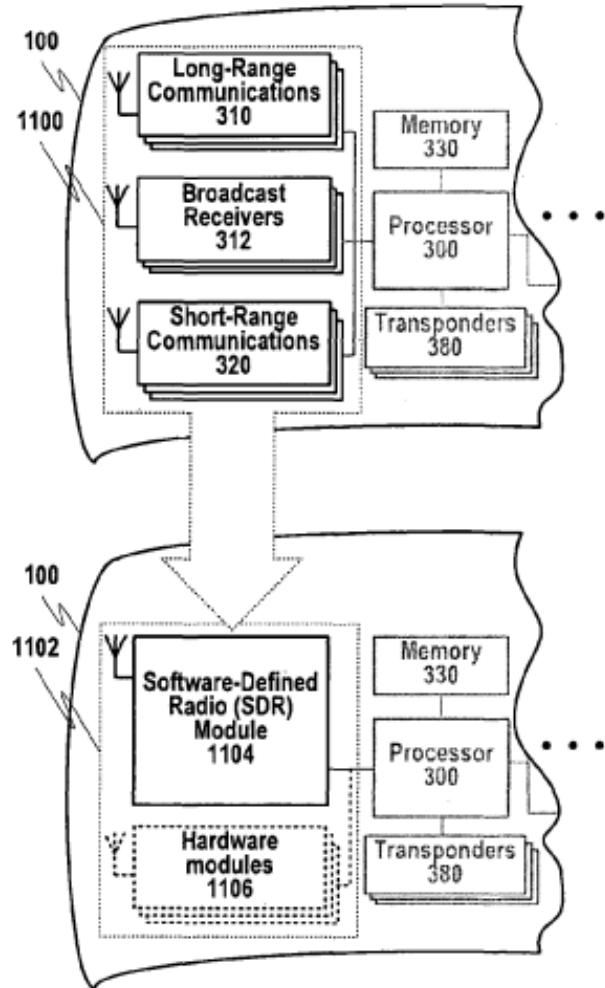
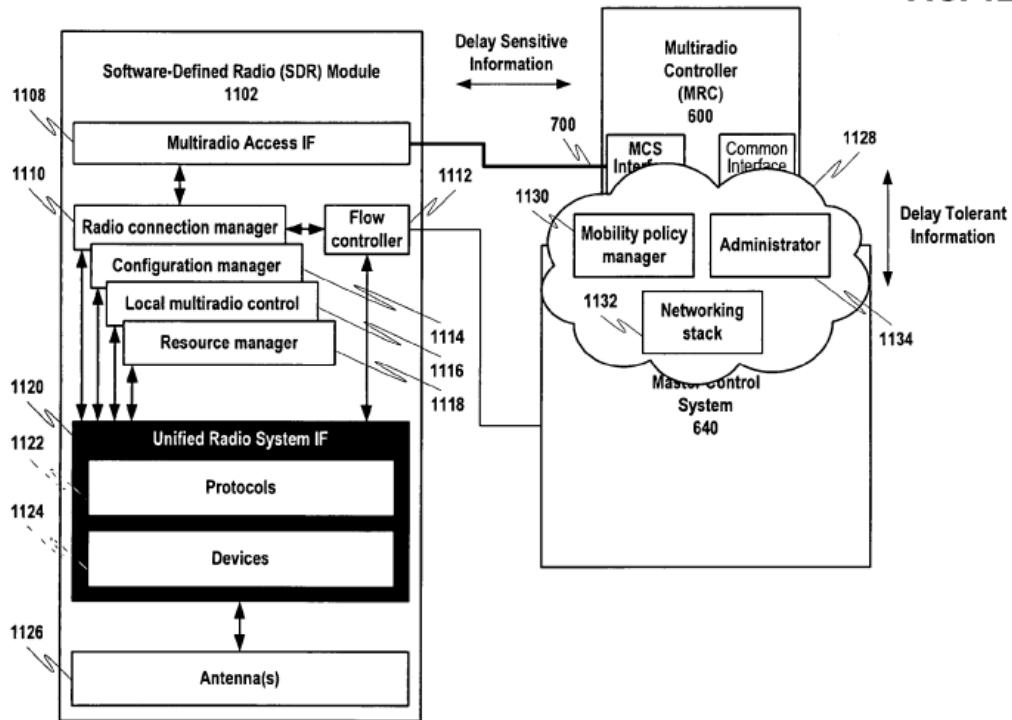


FIG. 11

Further, Figure 12 and its disclosure of SDR 1102, reproduced below, similarly do not disclose that SDR 1102 performs this “receiving remote characteristic information” function, or any hardware, software, algorithms, steps, computer program code, instructions, or other structure for doing so.

FIG. 12

As shown above, the example of Software-Defined Radio Module 1102 in Figure 12 has a Multiradio Access IF 1108, certain “manager” modules 1110, a “flow controller” 1112, a “Unified Radio System IF” 1120 having Protocols 1122 and Devices 1124, and one or more Antennas 1126. None of these sub-components is disclosed or linked by the specification to “receiving remote characteristic information into the apparatus.” *See* '213 patent at 18:9–60 (describing these components). A POSITA would not understand from the specification that SDR 1102 of Figure 12 performs this “receiving remote characteristic information” function, or that the SDR has sufficient structure to do so for the different examples and embodiments disclosed.

28. WSOU’s identification of a software defined radio (SDR) as part of the corresponding structure for this “means for” terms raises an additional definiteness problem to a POSITA. In general, an SDR is a type of radio in which software defines how the radio communicates, such as which communications protocol to emulate. As an example, using some

of the exemplary communications protocols from the '213 patent specification, and SDR might be able to communicate using two or more of the long-range communications protocols (GSM, WCDMA, GPRS, PCS, or WiMax.) '213 patent at 7:23–47 and Fig. 3. The specification also refers to at least three different “broadcast communications” technologies, protocols, and standards including analog radio, DVB, and DAB. '213 patent at, e.g., Fig. 3. '213 patent at, e.g., Fig. 3 and 7:36–47. The specification refers to another seven different “short-range communications” technologies that include Bluetooth, WLAN, UWB, BT-ULP, Wireless USB, Zigbee, and UHF RFID. '213 patent at, e.g., Fig. 3 and 7:48–59. The specification even refers to additional “close-proximity communications” technologies, protocols, and standards such as RFID, IR communication, QR bar code readers, optical detectors, magnetic detectors, and CCD. '213 patent at 7:60–8:11. To communicate by any of these protocols, however, the SDR would need to have particular software, including specific algorithms, in order to be programmed and configured to communicating using each long-range communications protocols or standards, as well as to switch between one protocol or standard to another for communications. It is this software that distinguishes the SDR from a more traditional radio only able to communicate using one communications protocol or standard. But the specification does not disclose any specific software, algorithms, instructions, or other specific structure as is needed for an SDR to perform the claimed function, nor does it disclose any examples of any such software, algorithms, or instructions for any of the identified long-range, short-range, broadcast, or close proximity communications technologies. Further, there are many different ways, algorithms, instructions, and other structures that a POSITA could use to program and SDR to carry out these different communications technologies. As a result, all the specification discloses is a black box, general-purpose SDR having no specific structure and incapable of communicating using any of the

identified long-range, short-range, broadcast, or close-proximity communications technologies. My understanding is that for definiteness, the specification must disclose specific structure, including for software-implemented inventions and processing specific software, algorithms, and instructions, for there to be a special-purpose processor or structure (here, and SDR) that is sufficient to carry out the specified function here of “receiving remote characteristic information into the apparatus.” Because there is no such disclosure or clear-linking of any specific software, algorithms, or instructions, then even under WSOU’s proposal that the corresponding structure includes an SDR, a POSITA would still find this claim term indefinite. And, as I have already discussed, the specification does not clearly link an SDR to the specified function here of “receiving remote characteristic information into the apparatus,” so a POSITA would not view an SDR as corresponding, clearly-linked, or sufficient structure for this function.

29. I also understand that NEC asserts the similar claim term reciting “computer program code configured to receive remote characteristic information into the apparatus” does not identify specific structure for performing the recited function of “receive remote characteristic information into the apparatus.” Here, while the words “means for” are not used, the term “computer program configured to” would be recognized by a POSITA as a nonstructural nonce phrase. And, because the claim limitation is set forth in functional language without the identification of sufficient structure to perform the claimed function, I understand that the term is to be construed subject to 35 U.S.C. § 112, ¶ 6. I understand that NEC’s position is that this term is subject to 35 U.S.C. § 112, ¶ 6, but is indefinite because there is no specification structure that is clearly linked, sufficient to perform, or corresponds to this function. I agree with NEC that a POSITA would not find the claim language reciting “computer program code being configured to ...” to be specific structure, material, or acts for performing the claimed function. The claim

merely suggests that computer code might be used to achieve the claimed function, but it does not identify any such computer code, or even the algorithm(s) that might be implemented using computer code. The claim's general recitation of "computer program code" does not identify any specific algorithm, steps, instructions, method, or computer program code for performing the recited function. A POSITA would find this claim language to be a generic recitation of a function to be performed by some unspecified computer program code. As a result, a POSITA would recognize that this "computer program code configured to ..." is to be construed under 35 U.S.C. § 112, ¶ 6. In other words, to understand this claim term, a POSITA would look to the specification for any corresponding, clearly-linked sufficient structure to achieve the claimed function. As discussed above, there is none and a POSITA would find that this term is indefinite. Specifically, the specification does not disclose any specific computer program code, algorithms, steps, or instructions for performing this function. As I have explained above for the similar "means for ..." term, the specification does not disclose any corresponding, clearly-linked, or sufficient computer program code (including any specific instructions, algorithms, or steps) that acts as "computer program code configured to receive remote characteristic information into the apparatus." Also, WSOU's proposed construction does not identify any specific computer program code (e.g., specific algorithms, methods, or instructions) for performing the claimed function. As a result, in light of the specification, a POSITA would find the claim term reciting "computer program code configured to receive remote characteristic information into the apparatus" does not reasonably inform a POSITA of what specific computer program code performs the recited, specific function. This claim term is therefore indefinite.

- (c) “means for determining local characteristic information in the apparatus” and “computer program code configured to determine local characteristic information in the apparatus”

“Means for determining local characteristic information in the apparatus” – ’213 Patent Claim 22	
“Computer program code configured to determine local characteristic information in the apparatus” – ’213 Patent Claim 8	
NEC’s Construction	WSOU’s Construction
<p><i>Indefinite.</i></p> <p>“Means for …” and “computer program code configured to …” terms both governed by 35 U.S.C. § 112, ¶ 6.</p> <p><u>Function:</u> [determining / to determine] local characteristic information in the apparatus.</p> <p><u>Structure/material/acts:</u> <i>No sufficient structure disclosed or clearly-linked; no specific hardware, software, program, algorithm, or steps.</i></p>	<p><u>“Means for determining ... apparatus”:</u> Governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite.</p> <p><u>Function:</u> determining local characteristic information in the apparatus.</p> <p><u>Structure/material/acts:</u> For example, apparatus A (1300) and process 3 of Fig. 13, <u>communications module 230 of Fig. 2, memory 330 and processor 300 of Figs. 3, 7A, 8A, 9A, or 11, software-defined radio module 1102 and software modules 1110-1118 of Fig. 12, and step 1416 of Fig. 14A</u>, and the corresponding portions of the specification at <u>6:17-30, 6:50-7:22, 8:60-9:5, 17:8-52, 18:4-60, 20:25-35, 21:1-3, and 21:28-42</u>, and equivalents thereof.</p> <p><u>“Computer program code configured to determine ... apparatus”:</u> Not governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite. No construction necessary – plain and ordinary meaning.</p> <p><u>To the extent, however, that the Court treats the term as means-plus-function, the function and structure identified above (except that “processor 300” and “software-defined radio module 1102” were not identified for this term, and only 18:4-6 and 18:45-60 were identified (instead of 18:4-60)).</u></p>

30. My understanding is that NEC and WSOU agree that of these related terms, the term “means for determining local characteristic information in the apparatus” is a means plus function term subject to 35 U.S.C. § 112, ¶ 6. This requires an analysis of what a POSITA would identify is the specified function from the claims, as well as the corresponding structure for performing that function from the specification. My understanding is that NEC and WSOU agree that the specific function is “determining local characteristic information in the apparatus.” However, my understanding is that NEC’s position is that there is no sufficient corresponding, clearly-linked structure, material, or acts for performing this function, and that it is therefore indefinite. WSOU, on the other hand, had initially proposed that the corresponding specification structure is:

For example, apparatus A (1300) and process 3 of Fig. 13, and the corresponding portions of the specification at 20:25-35, and equivalents thereof.

As I explain below, a POSITA would not find that this portion of the specification identified by WSOU is clearly linked, sufficient structure for performing the specified function. As a result, a POSITA would find this “means for …” term to be indefinite.

31. Because NEC and WSOU agree that this “means for …” term is subject to U.S.C. § 112, ¶ 6, I have looked to the specification to see if it clearly links any corresponding, sufficient structure for performing the recited function of “determining local characteristic information in the apparatus.” The specification does not recite any corresponding, sufficient, or clearly linked structure for performing this function. A POSITA would understand that “determining local characteristic information in the apparatus” is a specific type of function that requires the apparatus to determine at least one type of local characteristic information. The specification gives some general examples of what “local characteristic information” might be, saying:

Apparatus A 1300 may also determine characteristics pertaining to itself. Local characteristics may include all of the information discussed above with respect to remote characteristics but from the perspective of the initiating apparatus.

'213 patent at 20:25–29. In turn, when describing remote characteristic information, the specification states:

For instance, apparatus status information may include apparatus communication capabilities and/or preferences, current apparatus power condition, current apparatus operational condition, current communication activity including transports active in the apparatus and a number of messages pending for each active transport, etc. Information pertaining to environmental conditions may include signals sensed in proximity to the apparatus that may potentially cause interference, communication scheduled in the apparatus, the identification of other apparatuses operating in proximity, etc. Some or all of this information may be provided in response to the inquiry of apparatus A 1300.

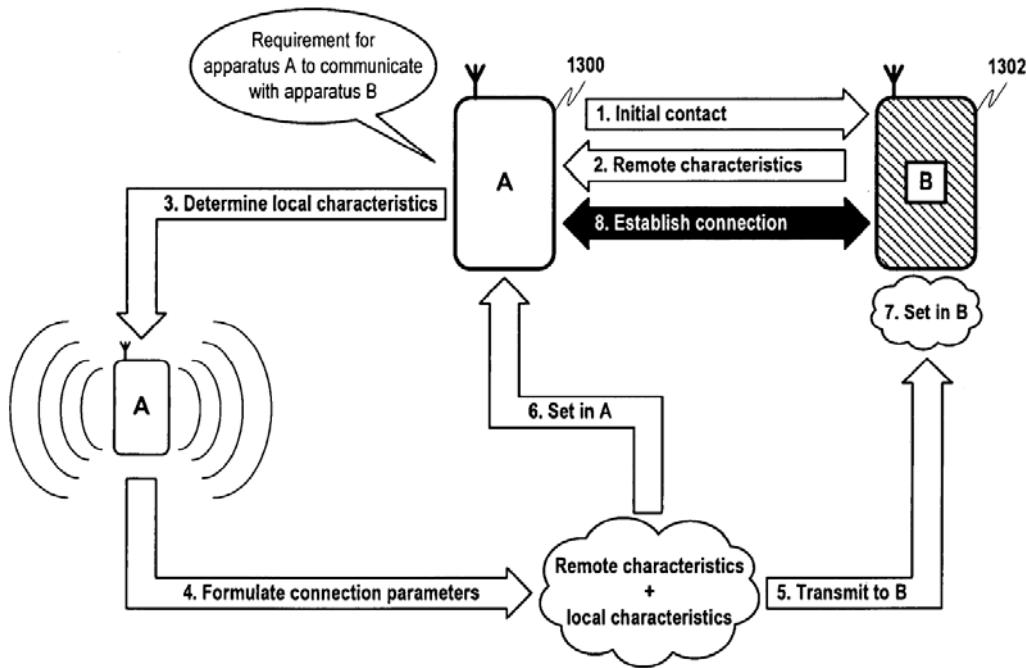
'213 patent at 20:13–24. However, the specification does not identify any structure of an apparatus that performs the function of “determining local characteristic information in the apparatus.” Instead, the specification simply says that the apparatus can determine certain various types of characteristic information. Apparatus A is largely a black box, and does not disclose any specific hardware, software, algorithms, steps, computer program code, instructions, or other structure sufficient to determine local characteristic information. The specification also does not clearly link any such structure to this function of “determining local characteristic information in the apparatus.” A POSITA would not understand the specification to disclose, much less clearly link, any particular structure for performing this function. Because the specification does not disclose or clearly link sufficient structure for performing this specific function, a POSITA would find that the claim term “means for determining local characteristic information in the apparatus” is indefinite.

32. This indefiniteness is further confirmed by WSOU’s proposed construction of the corresponding structure. As noted above, WSOU initially proposed the following as corresponding structure:

For example, apparatus A (1300) and process 3 of Fig. 13, and the corresponding portions of the specification at 20:25-35, and equivalents thereof.

The specification does not clearly link this structure to performing the claimed function, and this structure is not sufficient to perform the claimed function. In Fig. 13, “Apparatus A” is drawn as a rectangle with the letter “A” in the center. There is no explanation of what happens inside of the box labeled “A,” and there is no discussion about what feature, code, algorithm, or portion of “A” might receive remote characteristic information into the apparatus. Box “A” does not provide corresponding *structure* to perform the specific function of “determining local characteristic information in the apparatus.” Further, the preamble of the claim language already states that the “apparatus” comprises “means for determining local characteristic information in the apparatus.” WSOU’s proposed identification of box “A” as corresponding structure is merely redundant of the functional claim language used, i.e., an apparatus for determining local characteristic information in the apparatus. A POSITA would not understand box “A” to be clearly linked structure for performing this “determining local characteristic information” function. Indeed, a POSITA would not find box “A” to provide *structure*. It is instead a graphical placeholder for structure that the patent never specifically identifies. As a result, the specification’s “Apparatus A” is not sufficient to perform the claimed function, because there is no disclosure of the required hardware, software, algorithms, steps, computer program code, instructions, or other structure of Apparatus A that is sufficient to perform this claimed function. WSOU’s proposed corresponding structure also identifies “process 3 of Fig. 13, and the corresponding portions of the specification at 20:25-35, and equivalents thereof.” Figure 13, reproduced below, is high-level and fails to provide any

meaningful structural detail for what actually happens inside of box “A.” Although process 3 discloses “3. Determine local characteristics,” this figure does not disclose any specific structure, hardware, software, algorithms, steps, computer program code, or instructions for performing this function. Instead, a POSITA would understand Figure 13 to simply be disclosing a functional description that Apparatus A will determine local characteristics.



WSOU’s proposal also is incorrect because it appears to identify the entirety of Figure 13. At most, it is only the portion “3. Determine local characteristics” that a POSITA might look to in seeking to understand how the inventors proposed to “determin[e] local characteristic information in the apparatus.” But, as already discussed, Figure 13 and the portion labeled “3. Determine local characteristics” does not disclose any particular or detailed structure for performing this specific function. WSOU’s proposed construction also identifies the ’213 patent at 20:25-35, which states (with emphasis added):

Apparatus A 1300 may also determine characteristics pertaining to itself, which are designated local characteristics in FIG. 13.
Local characteristics may include all of the information discussed

above with respect to remote characteristics, but from the perspective of the initiating apparatus. While local characteristics are formulated after remote characteristics in the example of FIG. 13, the determination of local characteristics is not limited to this temporal organization. In particular, the determination of local characteristics may occur before, during or after the receipt of remote characteristics from apparatus B 1302.

None of the above passage identifies any structure, by which Apparatus A determines local characteristics of itself. Instead, this passage simply provides a functional description of determining local characteristics, including what might be a characteristic and when it can be determined. This passage also does not disclose any structure sufficient for actually receiving determining local characteristic information in Apparatus A. The passage that WSOU points to in its proposed construction does not disclose any specific hardware, software, algorithms, steps, computer program code, instructions, or other structure that performs this function which is sufficient, or clearly link any such structure to the function of “determining local characteristic information in the apparatus.” As discussed above, the specification gives a list of certain examples of characteristic information, ’213 patent at 20:10–30 (identifying, for example, “apparatus status and/or environmental conditions proximate to the apparatus,” including apparatus communication capabilities and/or preferences, current apparatus power condition, current apparatus operational condition, current communication activity, proximate signal interference, scheduled communications, and other apparatuses operating in proximity). The specification does not provide any, much less all, sufficient structure for determining any of these characteristics that are local to the apparatus. For all of these reasons, a POSITA would not understand Figure 13, and the corresponding portions of the specification at 20:25–35, to disclose corresponding, clearly-linked, sufficient structure for performing the claimed function. Because there is no corresponding, clearly-linked, sufficient structure to “determin[e] local characteristic

information in the apparatus,” a POSITA would conclude that the claim term “means for determining local characteristic information in the apparatus” is indefinite.

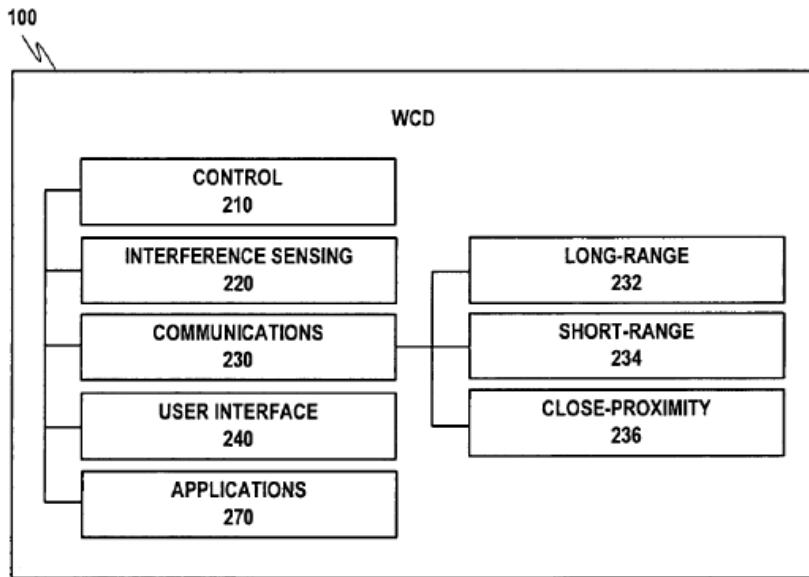
33. I was informed that WSOU has said that it has supplemented its initial proposed structure identified above with the following additional alleged proposed structure, with newly identified structure in red below:

Structure/material/acts: For example, apparatus A (1300) and process 3 of Fig. 13, communications module 230 of Fig. 2, memory 330 and processor 300 of Figs. 3, 7A, 8A, 9A, or 11, software-defined radio module 1102 and software modules 1110-1118 of Fig. 12, and step 1416 of Fig. 14A, and the corresponding portions of the specification at 6:17-30, 6:50-7:22, 8:60-9:5, 17:8-52, 18:4-60, 20:25-35, 21:1-3, and 21:28-42, and equivalents thereof.

However, a POSITA would still find this claim term indefinite, because the specification does not clearly link this additional structure to performing the claimed function, and this disclosed structure is not sufficient to perform the claimed function. Although the term “local characteristic” appears in the ’213 patent 27 times, it appears in only one paragraph in the new disclosures, as shown below:

If a response is received in step 1414 (e.g., including remote characteristics pertaining to the other apparatus), then in step 1416 local characteristics related to the initiating apparatus may be determined. As stated above, steps 1414 and 1416 do not have to occur in the order depicted in FIG. 14A, as the determination of local characteristics may occur in the initiating apparatus before, during or after the receipt of the remote characteristics.

’213 patent at 21:34–42. This passage, however, fails to disclose anything about how to “determine” the local characteristic information, nor does it identify what hardware, software, computer program code, algorithms, steps, instructions, or other structure does so. Figure 2, which WSOU also identifies and is shown below, similarly does not provide any detail or information about any structure that performs this “determining local characteristic information in the apparatus” function.

FIG. 2

As shown above, Figure 2 shows certain generic components as a “black box,” including communications module 230. But Figure 2 does not identify which components, if any, perform the “determining local characteristic information” function, much less how they do so. Similarly, Figures 3, 7A (shown below), 8A, 9A, and 11 (also shown below), which WSOU also identifies, show certain generic components as a “black box,” including memory 330 and processor 300, but do not identify which components, if any, perform the “determining local characteristic information” function or how.

FIG. 7A

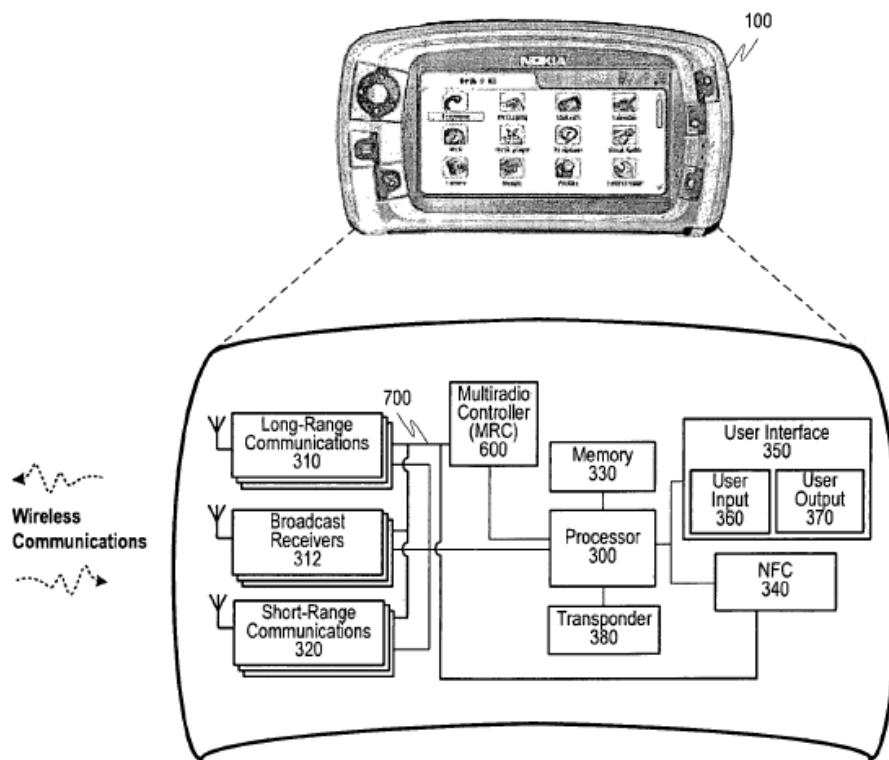
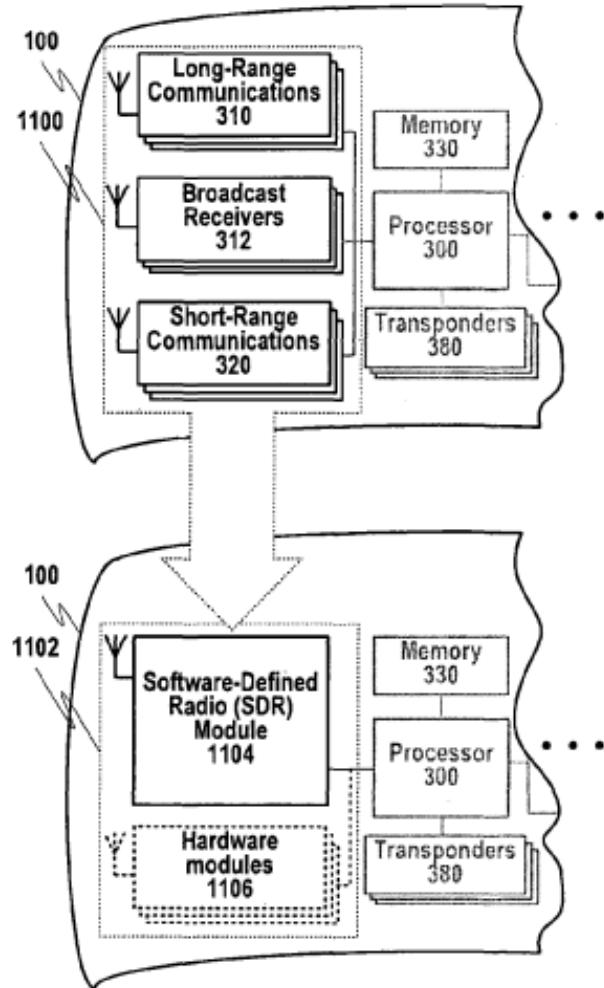
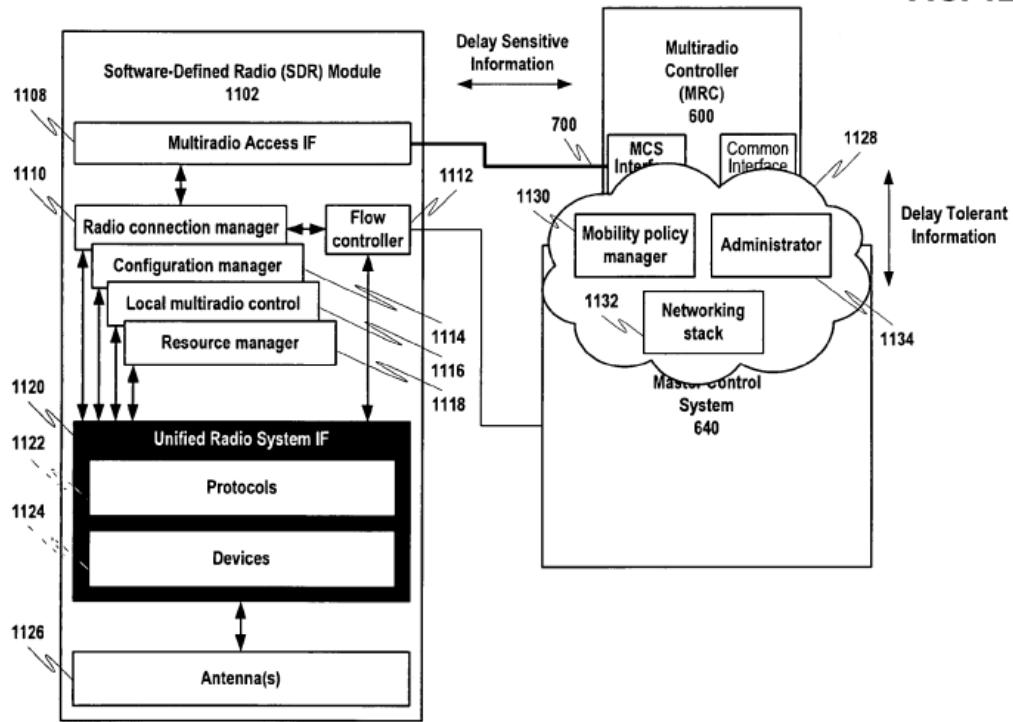


FIG. 11

Further, Figure 12 and its disclosure of SDR 1102, reproduced below, similarly do not disclose that SDR 1102 performs this “determining local characteristic information” function, or any hardware, software, algorithms, steps, computer program code, instructions, or other structure for doing so.

FIG. 12

As shown above, the example of Software-Defined Radio Module 1102 in Figure 12 has a Multiradio Access IF 1108, certain “manager” modules 1110, a “flow controller” 1112, a “Unified Radio System IF” 1120 having Protocols 1122 and Devices 1124, and one or more Antennas 1126. None of these sub-components is disclosed or linked by the specification to “determining local characteristic information in the apparatus.” See '213 patent at 18:9–60 (describing these components). A POSITA would not understand from the specification that SDR 1102 of Figure 12 performs this “determining local characteristic information” function, or that the SDR has sufficient structure to do so for the different examples and embodiments disclosed.

34. WSOU’s identification of a software defined radio (SDR) as part of the corresponding structure for this “means for” terms raises an additional definiteness problem to a POSITA. In general, an SDR is a type of radio in which software defines how the radio communicates, such as which communications protocol to emulate. As an example, using some

of the exemplary communications protocols from the '213 patent specification, and SDR might be able to communicate using two or more of the long-range communications protocols (GSM, WCDMA, GPRS, PCS, or WiMax.) '213 patent at 7:23–47 and Fig. 3. In order to do so, however, the SDR would need to have particular software, including specific algorithms, in order to be programmed and configured to communicating using each long-range communications protocols or standards, as well as to switch between one protocol or standard to another for communications. It is this software that distinguishes the SDR from a more traditional radio only able to communicate using one communications protocol or standard. But the specification does not disclose any specific software, algorithms, instructions, or other specific structure as is needed for an SDR to perform the claimed function, nor does it disclose any examples of any such software, algorithms or instructions for any of the identified long-range, short-range, broadcast, or close proximity communications technologies. Further, there are many different ways, algorithms, instructions, and other structures that a POSITA could use to program and SDR to carry out these different communications technologies. As a result, all the specification discloses is a black box, general-purpose SDR having no specific structure and incapable of communicating using any of the identified long-range, short-range, broadcast, or close-proximity communications technologies. My understanding is that for definiteness, the specification must disclose specific structure, including for software-implemented inventions and processing specific software, algorithms, and instructions, for there to be a special-purpose processor or structure (here, and SDR) that is sufficient to carry out the specified function here of “determining local characteristic information in the apparatus.” Because there is no such disclosure or clear-linking of any specific software, algorithms, or instructions, then even under WSOU’s proposal that the corresponding structure includes an SDR, a POSITA would still find this claim term indefinite. And, as I have

already discussed, the specification does not clearly link an SDR to the specified function here of “determining local characteristic information in the apparatus,” so a POSITA would not view an SDR as corresponding, clearly-linked, or sufficient structure for this function.

35. I also understand that NEC asserts the similar claim term reciting “computer program code configured to determine local characteristic information in the apparatus” does not identify specific structure for performing the recited function of “determine local characteristic information in the apparatus.” Here, while the words “means for” are not used, the term “computer program configured to” would be recognized by a POSITA as a nonstructural nonce phrase. And, because the claim limitation is set forth in functional language without the identification of sufficient structure to perform the claimed function, I understand that the term is to be construed subject to 35 U.S.C. § 112, ¶ 6. I understand that NEC’s position is that this term is subject to 35 U.S.C. § 112, ¶ 6, but is indefinite because there is no specification structure that is clearly linked, sufficient to perform, or corresponds to this function. I agree with NEC that a POSITA would not find the claim language reciting “computer program code being configured to …” to be specific structure, material, or acts for performing the claimed function. The claim merely suggests that computer code might be used to achieve the claimed function, but it does not identify any such computer code, or even the algorithm(s) that might be implemented using computer code. .The claim’s general recitation of “computer program code” does not identify any specific algorithm, steps, instructions, method, or computer program code for performing the recited function. A POSITA would find this claim language to be a generic recitation of a function to be performed by some unspecified computer program code. As a result, a POSITA would recognize that this “computer program code configured to …” is to be construed under 35 U.S.C. § 112, ¶ 6. In other words, to understand this claim term, a POSITA would look to the specification for any

corresponding, clearly-linked sufficient structure to achieve the claimed function. As discussed above, there is none and a POSITA would find that this term is indefinite. Specifically, the specification does not disclose any specific computer program code, algorithms, steps, or instructions for performing this function. As I have explained above for the similar “means for ...” term, the specification does not disclose any corresponding, clearly-linked, or sufficient computer program code (including any specific instructions, algorithms, or steps) that acts as “computer program code configured to determine local characteristic information in the apparatus.” Also, WSOU’s proposed construction does not identify any specific computer program code (e.g., specific algorithms, methods, or instructions) for performing the claimed function. As a result, in light of the specification, a POSITA would find the claim term reciting “computer program code configured to determine local characteristic information in the apparatus” does not reasonably inform a POSITA of what specific computer program code performs the recited, specific function. This claim term is therefore indefinite.

- (d) “means for sending the configuration from the apparatus to the at least one other apparatus” and “computer program code configured to send the configuration from the apparatus to the at least one other apparatus”**

“Means for sending the configuration from the apparatus to the at least one other apparatus” – ’213 Patent Claim 22

“Computer program code configured to send the configuration from the apparatus to the at least one other apparatus” – ’213 Patent Claim 8

NEC’s Construction	WSOU’s Construction
<p><i>Indefinite.</i></p> <p>“Means for ...” and “computer program code configured to ...” terms both governed by 35 U.S.C. § 112, ¶ 6.</p> <p><u>Function:</u> [sending / to send] the configuration from the apparatus to the at least one other apparatus.</p>	<p><u>“Means for sending ... apparatus”:</u></p> <p>Governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite.</p> <p><u>Function:</u> sending the configuration from the apparatus to the at least one other apparatus.</p>

<p><u>Structure/material/acts:</u> No sufficient structure disclosed or clearly-linked; no specific hardware, software, program, algorithm, or steps.</p>	<p><u>Structure/material/acts:</u> For example, apparatus A and process 5 of Fig. 13, <u>communications module 230 of Fig. 2, memory 330 and processor 300 of Figs. 3, 7A, 8A, 9A, or 11, software-defined radio module 1102 and software modules 1110-1118 of Fig. 12, and step 1420 of Fig. 14A</u>, and the corresponding portions of the specification at <u>6:17-30, 6:50-7:22, 8:60-9:5, 17:8-52, 18:4-60, 20:45-48, 21:1-3, and 21:48-56</u>, and equivalents thereof.</p> <p><u>“Computer program code configured to send ... apparatus”:</u> Not governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite. No construction necessary – plain and ordinary meaning.</p> <p><u>To the extent, however, that the Court treats the term as means-plus-function, the function and structure identified above (except that “processor 300” and “software-defined radio module 1102” were not identified for this term, and only 18:4-6 and 18:45-60 were identified (instead of 18:4-60)).</u></p>
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36. My understanding is that NEC and WSOU agree that of these related terms, the term “means for sending the configuration from the apparatus to the at least one other apparatus” is a means plus function term subject to 35 U.S.C. § 112, ¶ 6. This requires an analysis of what a POSITA would identify is the specified function from the claims, as well as the corresponding structure for performing that function from the specification. My understanding is that NEC and WSOU agree that the specific function is “sending the configuration from the apparatus to the at least one other apparatus.” However, my understanding is that NEC’s position is that there is no sufficient corresponding, clearly-linked structure, material, or acts for performing this function, and that it is therefore indefinite. WSOU, on the other hand, had initially proposed that the corresponding specification structure is:

For example, apparatus A and process 5 of Fig. 13, and the corresponding portions of the specification at 20:45-48, and equivalents thereof.

As I explain below, a POSITA would not find that this portion of the specification identified by WSOU is clearly linked, sufficient structure for performing the specified function. As a result, a POSITA would find this “means for …” term to be indefinite.

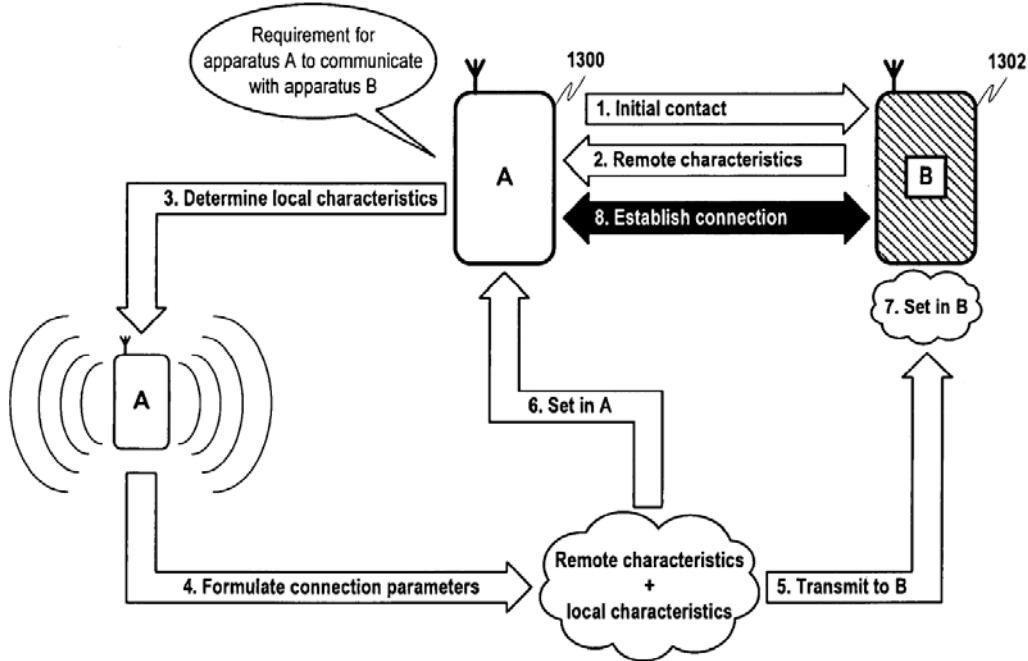
37. Because NEC and WSOU agree that this “means for …” term is subject to 35 U.S.C. § 112, ¶ 6, I have looked to the specification to see if it clearly links any corresponding, sufficient structure for performing the recited function of “sending the configuration from the apparatus to the at least one other apparatus.” The specification does not recite any corresponding, sufficient, or clearly linked structure for performing this function. The specification does not identify any structure of an apparatus that sends the configuration to another apparatus or otherwise identify any specific structure for doing so. Instead, the specification at most discloses generally some components (e.g., that the Apparatus A has an antenna and radios for receiving wireless communications) that may send wireless information generally. A POSITA would not understand the specification to disclose, much less clearly link, any particular structure for performing the function of “sending the configuration from the apparatus to the at least one other apparatus.” Because the specification does not disclose or clearly link sufficient structure for performing this specific function, a POSITA would find that the claim term “means for sending the configuration from the apparatus to the at least one other apparatus” is indefinite.

38. This indefiniteness is further confirmed by WSOU’s proposed construction of the corresponding structure. As noted above, WSOU initially proposed the following as corresponding structure:

For example, apparatus A and process 5 of Fig. 13, and the corresponding portions of the specification at 20:45-48, and equivalents thereof.

The specification does not clearly link this structure to performing the claimed function, and this structure is not sufficient to perform the claimed function. In Fig. 13, “Apparatus A” is drawn as a rectangle with the letter “A” in the center. There is no explanation of what happens inside of the box labeled “A,” and there is no discussion about what feature, code, algorithm, or portion of “A” might send the configuration and how it might do so. Box “A” does not provide corresponding *structure* to perform the specific function of “sending the configuration from the apparatus to the at least one other apparatus.” Further, the preamble of the claim language already states that the “apparatus” comprises “means for sending the configuration from the apparatus to the at least one other apparatus.” WSOU’s proposed identification of box “A” as corresponding structure is merely redundant of the functional claim language used, i.e., an apparatus for sending the configuration from the apparatus to the at least one other apparatus. A POSITA would not understand box “A” to be clearly linked structure for performing this “sending the configuration from the apparatus to the at least one other apparatus” function. Indeed, a POSITA would not find box “A” to provide *structure*. It is instead a graphical placeholder for structure that the patent never identifies. As a result, the specification’s “Apparatus A” is not sufficient to perform the claimed function, because there is no disclosure of the required hardware, software, algorithms, steps, computer program code, instructions, or other structure of Apparatus A that is sufficient to perform this claimed function. WSOU’s proposed corresponding structure also identifies “process 5 of Fig. 13, and the corresponding portions of the specification at 20:45-48.” Figure 13, reproduced below, is high-level and fails to provide any meaningful structural detail for what actually happens inside of box “A.” Although process 5 discloses “5. Transmit to B,” this figure does not disclose any specific structure, hardware, software, algorithms, steps, computer program code, or instructions for performing this function. Instead, a POSITA would understand Figure 13

to simply be disclosing a functional description that configuration information is transmitted by Apparatus A and received by Apparatus B.



WSOU's proposal also is incorrect because it appears to identify the entirety of Figure 13. At most, it is only the portion "5. Transmit to B" that a POSITA might look to in seeking to understand how the inventors proposed to "send[] the configuration from the apparatus to the at least one other apparatus." But, as already discussed, Figure 13 and the portion labeled "5. Transmit to B" fail to disclose any particular or detailed structure for performing this specific function. WSOU's proposed construction also identifies the '213 patent at 20:45-48, which states (with emphasis added):

After formulation of the configuration is complete, the configuration may be sent to apparatus B 1302. In various embodiments of the present invention, the configuration may be sent to apparatus B 1302 on the initialization channel.

None of the above very brief passage identifies any structure, by which Apparatus A transmits configuration information to Apparatus B. At most, the portion shown above only repeats that

functionally, Apparatus A sends configuration information to Apparatus A. This passage also does not disclose any structure sufficient for actually sending configuration information from Apparatus A to Apparatus B. Also, as I have already explained, an initialization channel (which this passage states is only a possible embodiment) is not part of Apparatus A, and is not itself structure. It is, instead, only a possible transmission medium for communicating information. In summary, the passage that WSOU points to in its proposed construction does not disclose any specific hardware, software, algorithms, steps, computer program code, instructions, or other structure that performs this function which is sufficient, or clearly link any such structure to the function of “sending the configuration from the apparatus to the at least one other apparatus.” For all of these reasons, a POSITA would not understand Figure 13, and the corresponding portions of the specification at 20:45-48, to disclose corresponding, clearly-linked, sufficient structure for performing the claimed function. Because there is no corresponding, clearly-linked, sufficient structure to “send[] the configuration from the apparatus to the at least one other apparatus,” a POSITA would conclude that the claim term “means for sending the configuration from the apparatus to the at least one other apparatus” is indefinite.

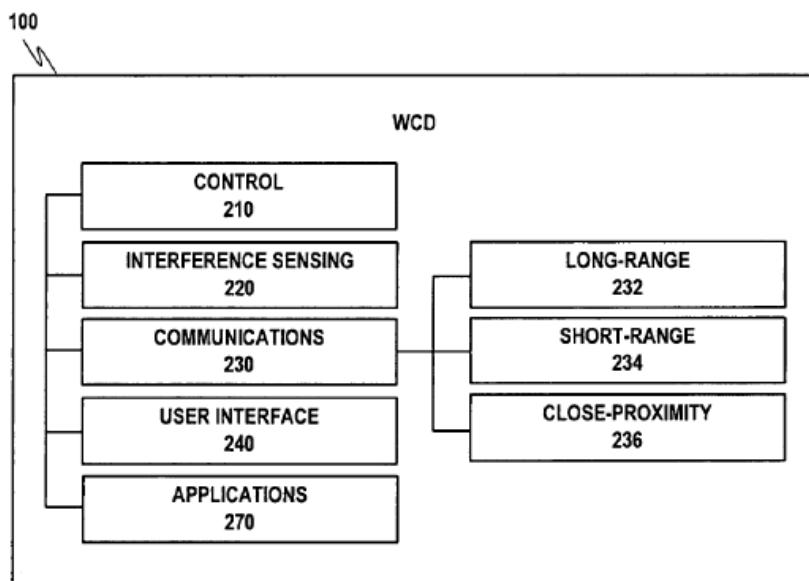
39. I was informed that WSOU has said that it has supplemented its initial proposed structure identified above with the following additional proposed structure indicated in red below:

Structure/material/acts: For example, apparatus A and process 5 of Fig. 13, communications module 230 of Fig. 2, memory 330 and processor 300 of Figs. 3, 7A, 8A, 9A, or 11, software-defined radio module 1102 and software modules 1110-1118 of Fig. 12, and step 1420 of Fig. 14A, and the corresponding portions of the specification at 6:17-30, 6:50-7:22, 8:60-9:5, 17:8-52, 18:4-60, 20:45-48, 21:1-3, and 21:48-56, and equivalents thereof.

40. However, a POSITA would still find this claim term indefinite, because the specification does not clearly link this additional structure to performing the claimed function, and this structure is not sufficient to perform the claimed function. Only one passage in the new

disclosures references “sending the configuration,” at 21:48-52: “The configuration may then be sent to the other apparatus in step 1420. In accordance with at least one embodiment of the present invention, the configuration may be sent from the initiating apparatus to the other apparatus on the initialization channel.” This too fails to disclose anything about how to “send” the configuration, nor does it identify what hardware, software, computer program code, algorithms, steps, instructions, or other structure does so. Also, as I have already explained, an initialization channel (which this passage states is only a possible embodiment) is not itself structure. It is, instead, only a possible transmission medium for communicating information Figure 2, which WSOU also identifies and is shown below, similarly does not provide any detail or information about any structure that performs this “sending the configuration” function.

FIG. 2



As shown above, Figure 2 shows certain generic components as a “black box,” including communications module 230. But Figure 2 does not identify which components, if any, perform the “sending the configuration” function, much less how they do so. Similarly, Figures 3, 7A

(shown below), 8A, 9A, and 11 (also shown below), which WSOU also identifies, show certain generic components as a “black box,” including memory 330 and processor 300, but do not identify which components, if any, perform the “sending the configuration” function or how.

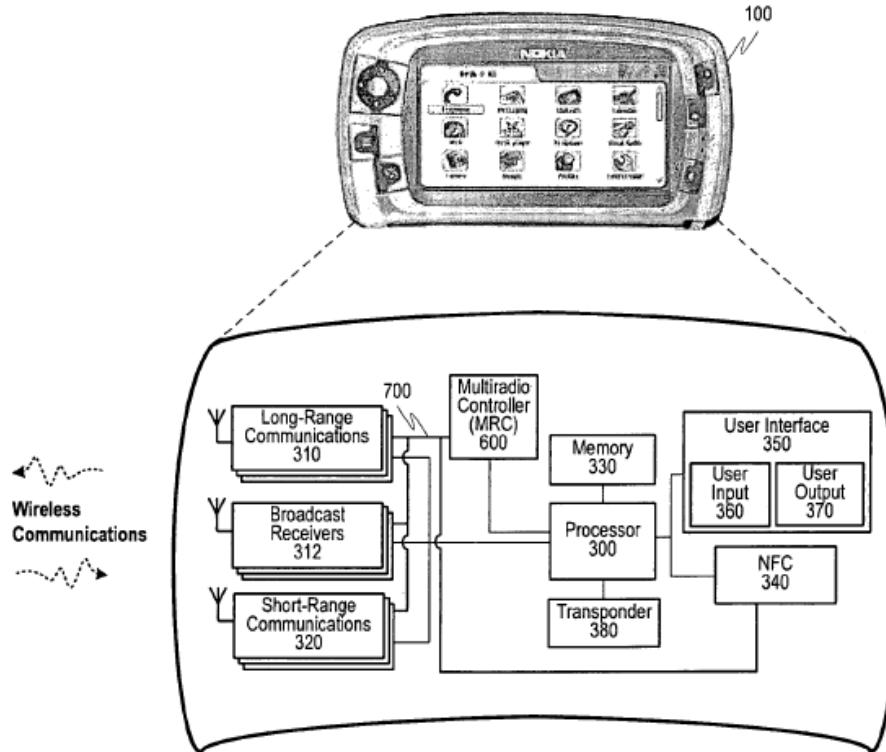
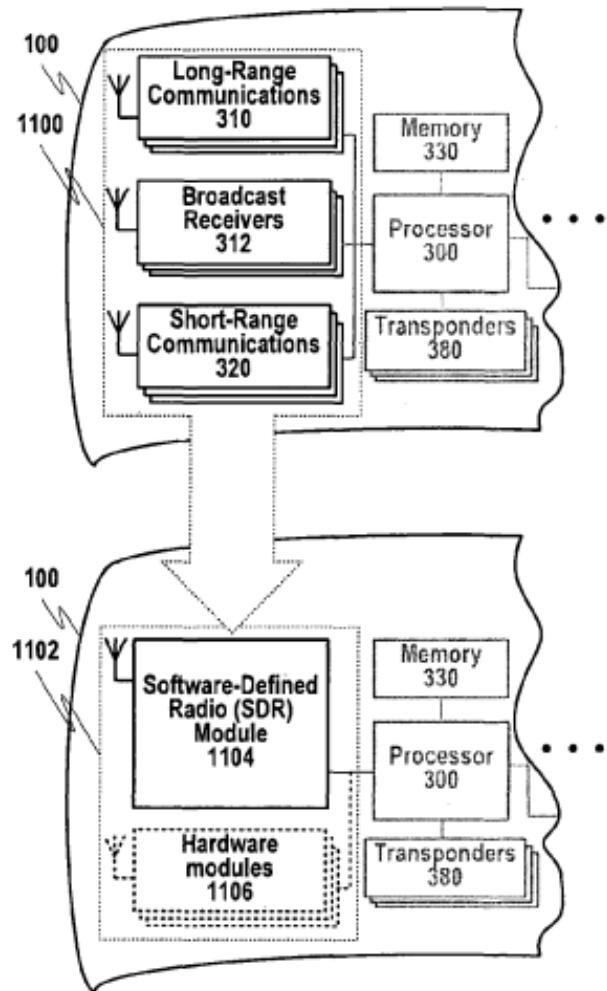
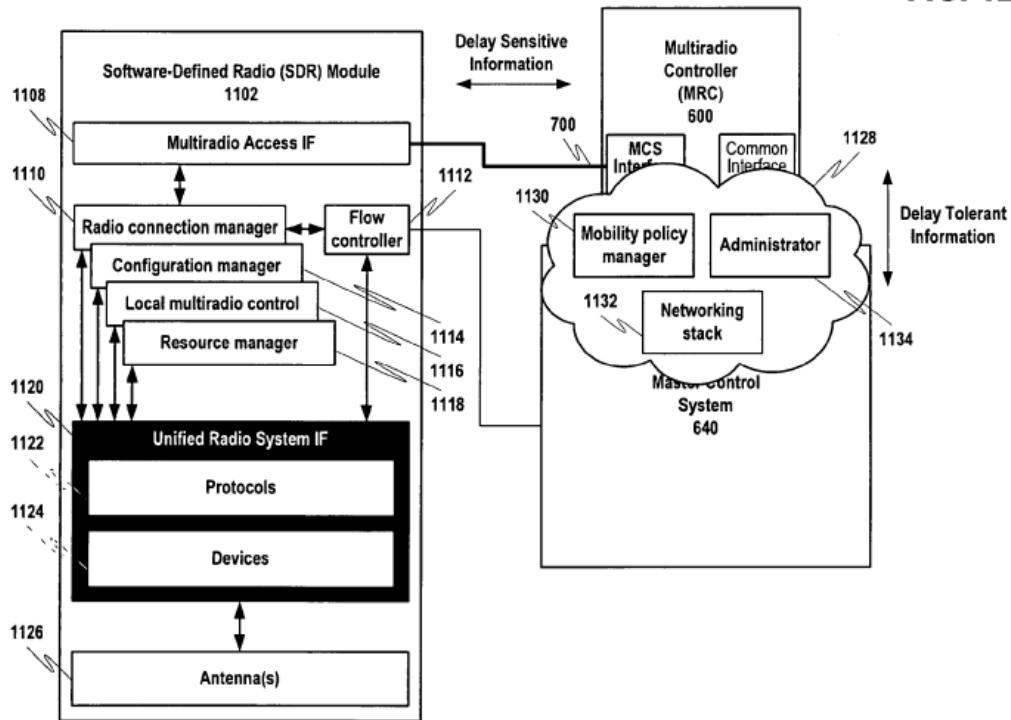
FIG. 7A

FIG. 11

Further, Figure 12 and its disclosure of SDR 1102, reproduced below, similarly do not disclose that SDR 1102 performs this “sending the configuration” function, or any hardware, software, algorithms, steps, computer program code, instructions, or other structure for doing so.

FIG. 12

As shown above, the example of Software-Defined Radio Module 1102 in Figure 12 has a Multiradio Access IF 1108, certain “manager” modules 1110, a “flow controller” 1112, a “Unified Radio System IF” 1120 having Protocols 1122 and Devices 1124, and one or more Antennas 1126. None of these sub-components is disclosed or linked by the specification to “sending the configuration from the apparatus to the at least one other apparatus.” *See* ’213 patent at 18:9–60 (describing these components). A POSITA would not understand from the specification that SDR 1102 of Figure 12 performs this “sending the configuration” function, or that the SDR has sufficient structure to do so for the different examples and embodiments disclosed.

41. WSOU’s identification of a software defined radio (SDR) as part of the corresponding structure for this “means for” terms raises an additional definiteness problem to a POSITA. In general, an SDR is a type of radio in which software defines how the radio communicates, such as which communications protocol to emulate. As an example, using some

of the exemplary communications protocols from the '213 patent specification, and SDR might be able to communicate using two or more of the long-range communications protocols (GSM, WCDMA, GPRS, PCS, or WiMAX.) '213 patent at 7:23–47 and Fig. 3. In order to do so, however, the SDR would need to have particular software, including specific algorithms, in order to be programmed and configured to communicating using each long-range communications protocols or standards, as well as to switch between one protocol or standard to another for communications. It is this software that distinguishes the SDR from a more traditional radio only able to communicate using one communications protocol or standard. But the specification does not disclose any specific software, algorithms, instructions, or other specific structure as is needed for an SDR to perform the claimed function, nor does it disclose any examples of any such software, algorithms, or instructions for any of the identified long-range, short-range, broadcast, or close proximity communications technologies. Further, there are many different ways, algorithms, instructions, and other structures that a POSITA could use to program and SDR to carry out these different communications technologies. As a result, all the specification discloses is a black box, general-purpose SDR having no specific structure and incapable of communicating using any of the identified long-range, short-range, broadcast, or close-proximity communications technologies. My understanding is that for definiteness, the specification must disclose specific structure, including for software-implemented inventions and processing specific software, algorithms, and instructions, for there to be a special-purpose processor or structure (here, and SDR) that is sufficient to carry out the specified function here of “sending the configuration from the apparatus to the at least one other apparatus.” Because there is no such disclosure or clear-linking of any specific software, algorithms, or instructions, then even under WSOU’s proposal that the corresponding structure includes an SDR, a POSITA would still find this claim term

indefinite. And, as I have already discussed, the specification does not clearly link an SDR to the specified function here of “sending the configuration from the apparatus to the at least one other apparatus,” so a POSITA would not view an SDR as corresponding, clearly-linked, or sufficient structure for this function.

42. I also understand that NEC asserts the similar claim term reciting “computer program code configured to send the configuration from the apparatus to the at least one other apparatus” does not identify specific structure for performing the recited function of “send the configuration from the apparatus to the at least one other apparatus.” Here, while the words “means for” are not used, the term “computer program code configured to” would be recognized by a POSITA as a nonstructural nonce phrase. And, because the claim limitation is set forth in functional language without the identification of sufficient structure to perform the claimed function, I understand that the term is to be construed subject to 35 U.S.C. § 112, ¶ 6. I understand that NEC’s position is that this term is subject to 35 U.S.C. § 112, ¶ 6, but is indefinite because there is no specification structure that is clearly linked, sufficient to perform, or corresponds to this function. I agree with NEC that a POSITA would not find the claim language reciting “computer program code being configured to …” to be specific structure, material, or acts for performing the claimed function. The claim merely suggests that computer code might be used to achieve the claimed function, but it does not identify any such computer code, or even the algorithm(s) that might be implemented using computer code. The claim’s general recitation of “computer program code” does not identify any specific algorithm, steps, instructions, method, or computer program code for performing the recited function. A POSITA would find this claim language to be a generic recitation of a function to be performed by some unspecified computer program code. As a result, a POSITA would recognize that this “computer program code configured to …” is to be construed

under 35 U.S.C. § 112, ¶ 6. In other words, to understand this claim term, a POSITA would look to the specification for any corresponding, clearly-linked sufficient structure to achieve the claimed function. As discussed above, there is none and a POSITA would find that this term is indefinite. Specifically, the specification does not disclose any specific computer program code, algorithms, steps, or instructions for performing this function. As I have explained above for the similar “means for …” term, the specification does not disclose any corresponding, clearly-linked, or sufficient computer program code (including any specific instructions, algorithms, or steps) that acts as “computer program code configured to send the configuration from the apparatus to the at least one other apparatus.” Also, WSOU’s proposed construction does not identify any specific computer program code (e.g., specific algorithms, methods, or instructions) for performing the claimed function. As a result, in light of the specification, a POSITA would find the claim term reciting “computer program code configured to send the configuration from the apparatus to the at least one other apparatus” does not reasonably inform a POSITA of what specific computer program code performs the recited, specific function. This claim term is therefore indefinite.

2. Discussion of Patent Claims 24, 25, and 26

43. Patent claims 24, 25, and 26 each have four additional claim terms written in substantially identical functional language. As such, I have grouped these substantially identical claim terms into triplets of claim terms. With respect to claim 26, each associated term within the triplets recites “means for” performing the specified function. With respect to claim 24, each associated term within the triplets recites “computer program code configured to” perform the specified function. For claim 25, each associated term within the triplets recites “the processor being configured to” perform the specified function. Because of this overlap, I discuss these three claims and their triplets of claim terms below.

- (a) “means for receiving wireless communication in the apparatus”; “computer program code configured to receive wireless communication in an apparatus”; and “the processor being configured to receive wireless communication in an apparatus”

“Means for receiving wireless communication in the apparatus” – ’213 Patent Claim 26

“Computer program code configured to receive wireless communication in an apparatus” – ’213 Patent Claim 24

“The processor being configured to receive wireless communication in an apparatus” – ’213 Patent Claim 25

NEC’s Construction	WSOU’s Construction
<p><i>Indefinite.</i></p> <p>“Means for ...,” and “computer program code configured to ...,” and “the processor being configured to ...” terms all governed by 35 U.S.C. § 112, ¶ 6.</p> <p><u>Function:</u> [receiving / to receive] wireless communication in the apparatus.</p> <p><u>Structure/material/acts:</u> <i>No sufficient structure disclosed or clearly-linked; no specific hardware, software, program, algorithm, or steps.</i></p>	<p>“Means for receiving ... apparatus”: Governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite.</p> <p><u>Function:</u> receiving wireless communication in the apparatus.</p> <p><u>Structure/material/acts:</u> For example, apparatus B (1302) of Fig. 13 and process 1 of Fig. 13, <u>communications module 230 of Fig. 2, memory 330 and processor 300 of Figs. 3, 7A, 8A, 9A, or 11, software-defined radio module 1102 and software modules 1110-1118 of Fig. 12, and step 1450 of Fig. 14B</u>, and the corresponding portions of the specification at <u>6:17-30, 6:50-7:22, 8:60-9:5, 17:8-52, 18:4-6, 18:45-60, 19:67-20:1, and 20:4-8, and 22:11-25</u>, and equivalents thereof.</p> <p>“Computer program code configured to receive ... apparatus”: Not governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite. No construction necessary – plain and ordinary meaning.</p> <p><u>To the extent, however, that the Court treats the term as means-plus-function, the function and structure identified above (except that</u></p>

	<p><u>“processor 300” and “software-defined radio module 1102” were not identified for this term).</u></p> <p><u>The processor being configured to receive ... apparatus</u>: Not governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite. No construction necessary – plain and ordinary meaning.</p> <p><u>To the extent, however, that the Court treats the term as means-plus-function, the function and structure identified above.</u></p>
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44. My understanding is that NEC and WSOU agree that of these related terms, the term “means for receiving wireless communication in the apparatus” is a means plus function term subject to 35 U.S.C. § 112, ¶ 6. This requires an analysis of what a POSITA would identify is the specified function from the claims, as well as the corresponding structure for performing that function from the specification. My understanding is that NEC and WSOU agree that the specific function is “receiving wireless communication in the apparatus.” However, my understanding is that NEC’s position is that there is no sufficient corresponding, clearly-linked structure, material, or acts for performing this function, and that it is therefore indefinite. WSOU, on the other hand, had initially proposed that the corresponding specification structure is:

For example, apparatus B (1302) of Fig. 13 and process 1 of Fig. 13, and the corresponding portions of the specification at 19:67-20:1 and 20:4-8, and equivalents thereof.

As I explain below, a POSITA would not find that this portion of the specification identified by WSOU is clearly linked, sufficient structure for performing the specified function. As a result, a POSITA would find this “means for ...” term to be indefinite.

45. Because NEC and WSOU agree that this “means for ...” term is subject to 35 U.S.C. § 112, ¶ 6, I have looked to the specification to see if it clearly links any corresponding,

sufficient structure for performing the recited function of “receiving wireless communication in the apparatus.” The specification does not recite any corresponding, sufficient, or clearly linked structure for performing this function. However, the specification does not identify any structure of an apparatus that performs the function of “receiving wireless communication in the apparatus.” Instead, the specification at most discloses generally some components (e.g., that the Apparatus A has an antenna and radios for receiving wireless communications) that may receive wireless information generally. A POSITA would not understand the specification to clearly link any particular structure for performing the function of “receiving wireless communication *in the apparatus.*” Because the specification does not disclose clearly linked sufficient structure for performing this specific function, a POSITA would find that the claim term “means for receiving wireless communication in the apparatus” is indefinite.

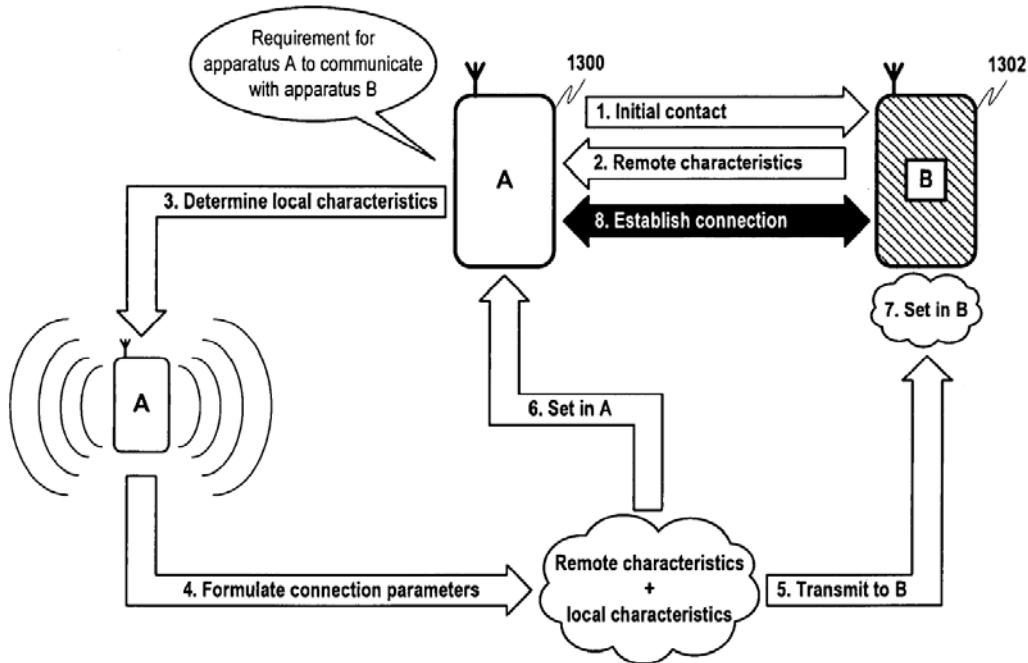
46. This indefiniteness is further confirmed by WSOU’s proposed construction of the corresponding structure. As noted above, WSOU initially proposed the following as corresponding structure:

For example, apparatus B (1302) of Fig. 13 and process 1 of Fig. 13, and the corresponding portions of the specification at 19:67-20:1 and 20:4-8, and equivalents thereof.

The specification does not clearly link this structure to performing the claimed function, and this structure is not sufficient to perform the claimed function. In Fig. 13, “Apparatus B” is drawn as a rectangle with the letter “B” in the center. There is no explanation of what happens inside of the box labeled “B,” and there is no discussion about what feature, code, algorithm, or portion of “B” might receive wireless communication and how it might do so. Box “B” does not provide corresponding *structure* to perform the specific function of “receiving wireless communication in the apparatus.” Further, the preamble of the claim language already states that the “apparatus” comprises “means for receiving wireless communication in the apparatus.” WSOU’s proposed

identification of box “B” as corresponding structure is merely redundant of the functional claim language used, i.e., an apparatus for receiving wireless communication in the apparatus. A POSITA would not understand box “B” to be clearly linked structure for performing this “receiving wireless communication in the apparatus” function. Indeed, a POSITA would not find box “B” to provide *structure*. It is instead a graphical placeholder for structure that the patent never identifies. As a result, the specification’s “Apparatus B” is not sufficient to perform the claimed function, because there is no disclosure of the required hardware, software, algorithms, steps, computer program code, instructions, or other structure of Apparatus A that is sufficient to perform this claimed function. Further, while Figure 13 also identifies a generic symbol for an antenna protruding from “Apparatus B,” a POSITA would understand that the antenna at most is a device for capturing unguided wireless signals and then forming a wired signal; a POSITA would not find the antenna to be clearly linked, sufficient structure for receiving wireless communication *in the apparatus.*

47. WSOU’s proposed corresponding structure also identifies “process 1 of Fig. 13, and the corresponding portions of the specification at 19:67-20:1 and 20:4-8.” Figure 13, reproduced below, is high-level and fails to provide any meaningful structural detail for what actually happens inside of box “B.” Although process 1 discloses that Apparatus B receives wireless communications from Apparatus A, such as “1. Initial contact,” this figure fails to disclose any sufficient structure, hardware, software, algorithms, steps, computer program code, or instructions for performing this “receiving” function. Instead, a POSITA would understand Figure 13 to simply be disclosing a functional description that Apparatus B receives wireless communications from Apparatus A.



WSOU's proposed construction also identifies the '213 patent at 19:67-20:1 and 20:4-8, which state:

In response to this requirement, apparatus A 1300 may send a wireless inquiry to apparatus B 1302.

* * * * *

Apparatus B 1302 may acknowledge receipt of the inquiry from apparatus A 1300, and may in turn respond with one or more messages accepting the invitation to communicate and containing remote characteristics.

Nothing in these two sentences above identifies any clearly linked structure by which Apparatus B, which is the receiving apparatus, receives wireless communication sent by Apparatus B. At most, the bolded portion shown above only repeats that functionally, Apparatus B receives wireless communications from Apparatus A. And, again, while Apparatus B includes the generic symbol for an antenna in Figure 13, nothing in these two sentences identifies the antenna as performing this “receiving wireless communication” function or describes how any communication received *by the antenna* would be transmitted into *the apparatus*. In summary, the passage that WSOU

points to in its proposed construction does not disclose any specific hardware, software, algorithms, steps, computer program code, instructions, or other structure that is clearly linked to the function of “receiving wireless communication in the apparatus.” For all of these reasons, a POSITA would not understand Figure 13, and the corresponding portions of the specification at 19:67-20:1 and 20:4-8, to disclose corresponding, clearly-linked, sufficient structure for performing the claimed function. Because there is no corresponding, clearly-linked, sufficient structure to “receiv[e] wireless communication in the apparatus,” a POSITA would conclude that the term “means for receiving wireless communication in the apparatus” is indefinite.

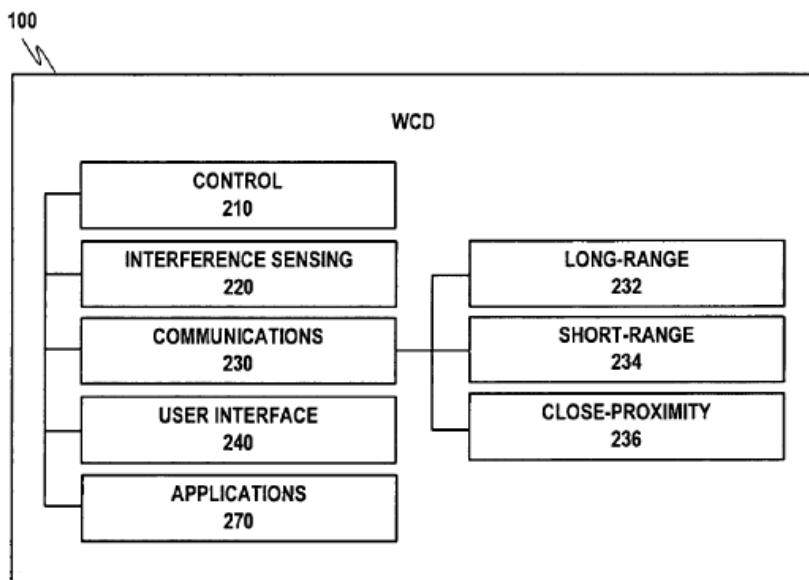
48. I was informed that WSOU has said that it has supplemented its initial proposed structure identified above with the following additional proposed structure indicated in red below:

Structure/material/acts: For example, apparatus B (1302) of Fig. 13 and process 1 of Fig. 13, communications module 230 of Fig. 2, memory 330 and processor 300 of Figs. 3, 7A, 8A, 9A, or 11, software-defined radio module 1102 and software modules 1110-1118 of Fig. 12, and step 1450 of Fig. 14B, and the corresponding portions of the specification at 6:17-30, 6:50-7:22, 8:60-9:5, 17:8-52, 18:4-6, 18:45-60, 19:67-20:1, and 20:4-8, and 22:11-25, and equivalents thereof.

However, a POSITA would still find this claim term indefinite, because the specification does not clearly link this additional structure to performing the claimed function, and this structure is not sufficient to perform the claimed function. Only one passage of the new disclosures references “receiving wireless communication,” at 18:52-54: “The *configured* software resources may then access hardware resources (e.g., antennas 1126) to send and/or receive wireless messages.” However, this passage indicates that wireless messages may be sent or received *after configuration*; it does not disclose receiving wireless communication in the apparatus before the apparatus has been configured to establish communication with at least one other apparatus. This is crucial, as each of the claims requires that the “configuration” is “receive[d]” only after the

apparatus begins receiving wireless communication. Nor does the passage identify what hardware, software, computer program code, algorithms, steps, instructions, or other structure does so. Figure 2, which WSOU also identifies and is shown below, similarly does not provide any detail or information about any structure that performs this “receiving wireless communication” function.

FIG. 2



As shown above, Figure 2 shows certain generic components as a “black box,” including communications module 230. But Figure 2 does not identify which components, if any, perform the “receiving wireless communication” function, much less how they do so. Similarly, Figures 3, 7A (shown below), 8A, 9A, and 11 (also shown below), which WSOU also identifies, show certain generic components as a “black box,” including memory 330 and processor 300, but do not identify which components, if any, perform the “receiving wireless communication” function or how.

FIG. 7A

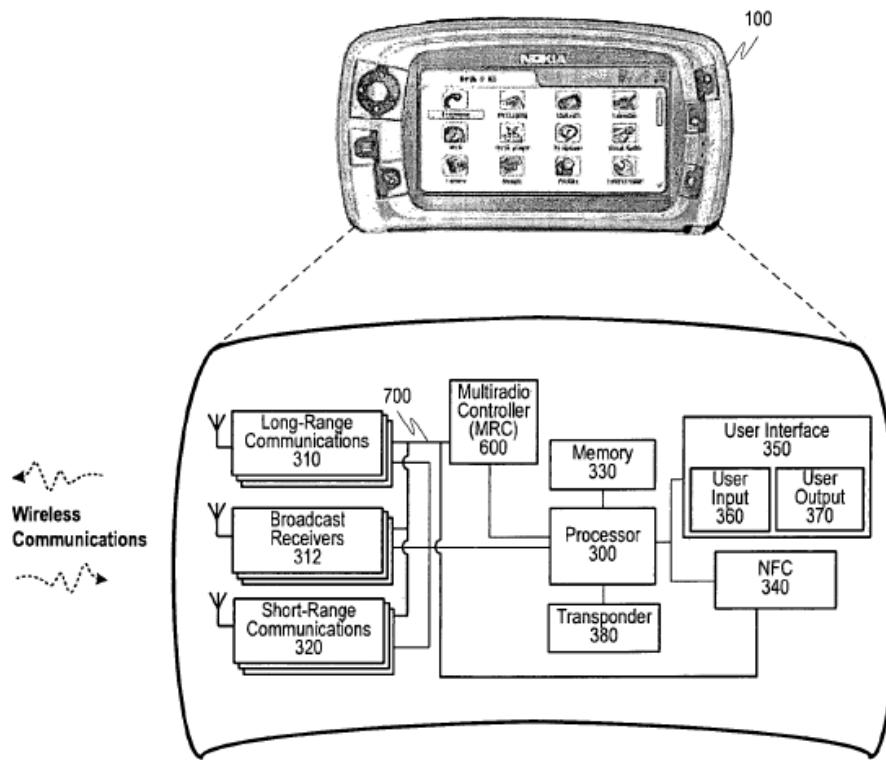
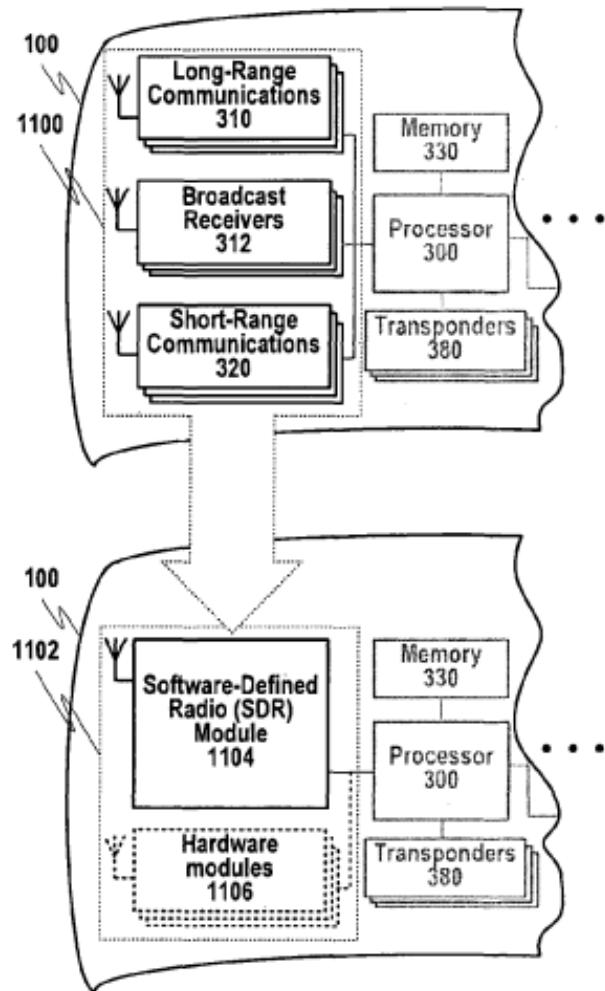
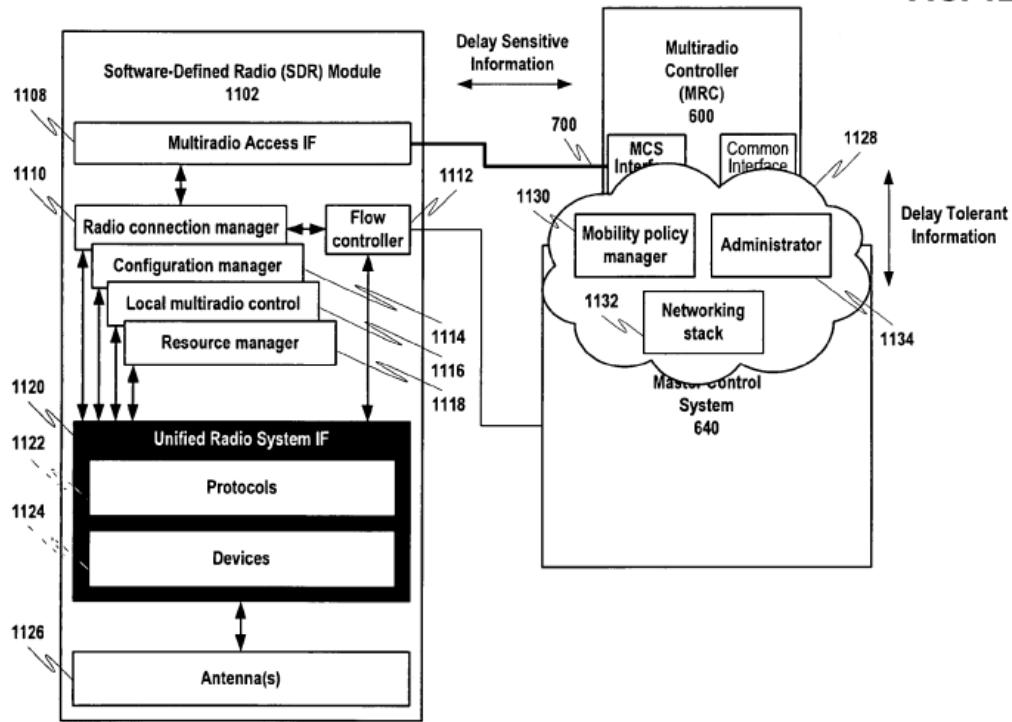


FIG. 11

Further, Figure 12 and its disclosure of SDR 1102, reproduced below, similarly do not disclose that SD 1102 performs this “receiving wireless communication” function, or any hardware, software, algorithms, steps, computer program code, instructions, or other structure for doing so.

FIG. 12

As shown above, the example of Software-Defined Radio Module 1102 in Figure 12 has a Multiradio Access IF 1108, certain “manager” modules 1110, a “flow controller” 1112, a “Unified Radio System IF” 1120 having Protocols 1122 and Devices 1124, and one or more Antennas 1126. As explained above, none of these sub-components is disclosed or linked by the specification to “receiving wireless communication in the apparatus.” *See* ’213 patent at 18:9–60 (describing these components). Looking at Figure 12, a POSITA would not recognize any sufficient structure that performs this “receiving wireless communication” function, or that the SDR has sufficient structure to do so for the different examples and embodiments disclosed. Rather, a POSITA would identify from Figure 12 that the one or more Antennas 1126 interface with Unified Radio System IF having Protocols 1122 and Devices 1124. The specification describes Protocols 1112 and Devices 1124 at 18:49–52 and 18:54–60:

For example, unified radio systems may include both protocol information 1122 and device information 1124 that may be usable when replicating the functionality of hardware-based radios.

* * * * *

For example, information in protocols 1122 and devices 1124 may be accessed and/or manipulated in order to emulate the functionality of a radio module that is configured to operate using a first transport (e.g., Bluetooth™ (BT)), and at the conclusion of activity may be reconfigured to support other communication in WCD 100 (e.g., WLAN).

However, these passages contain only functional language and describe Protocols 1122 and Devices 1124 only as generic, “black box” components that may be used to implement a function without providing any structure or algorithm for how to do so. At most, these passages recite that Protocols 1122 and Devices 1124 “may be usable when replicating the functionality of hardware-based radios,” “may be accessed and/or manipulated in order to emulate the functionality of a radio module,” or “may be reconfigured to support other communication,” but they do not disclose how Protocols 1122 and Devices 1124 are “used,” “accessed,” “manipulated,” or “reconfigured” to perform these functions, nor do they disclose any other hardware, software, algorithms, steps, computer program code, instructions, or other structure for doing so. These generic components, in conjunction with the Antennas 1126, are insufficient to inform a POSITA of structure that is clearly linked to performing the claimed function of “receiving wireless communication in the apparatus.”

49. WSOU’s identification of a software defined radio (SDR) as part of the corresponding structure for this “means for” terms raises an additional definiteness problem to a POSITA. In general, an SDR is a type of radio in which software defines how the radio communicates, such as which communications protocol to emulate. As an example, using some of the exemplary communications protocols from the ’213 patent specification, and SDR might be

able to communicate using two or more of the long-range communications protocols (GSM, WCDMA, GPRS, PCS, or WiMax.) '213 patent at 7:23–47 and Fig. 3. In order to do so, however, the SDR would need to have particular software, including specific algorithms, in order to be programmed and configured to communicating using each long-range communications protocols or standards, as well as to switch between one protocol or standard to another for communications. It is this software that distinguishes the SDR from a more traditional radio only able to communicate using one communications protocol or standard. But the specification does not disclose any specific software, algorithms, instructions, or other specific structure as is needed for an SDR to perform the claimed function, nor does it disclose any examples of any such software, algorithms, or instructions for any of the identified long-range, short-range, broadcast, or close proximity communications technologies. Further, there are many different ways, algorithms, instructions, and other structures that a POSITA could use to program and SDR to carry out these different communications technologies. As a result, all the specification discloses is a black box, general-purpose SDR having no specific structure and incapable of communicating using any of the identified long-range, short-range, broadcast, or close proximity communications technologies. My understanding is that for definiteness, the specification must disclose specific structure, including for software-implemented inventions and processing specific software, algorithms, and instructions, for there to be a special-purpose processor or structure (here, and SDR) that is sufficient to carry out the specified function here of “receiving wireless communication in the apparatus.” Because there is no such disclosure or clear-linking of any specific software, algorithms, or instructions, then even under WSOU’s proposal that the corresponding structure includes an SDR, a POSITA would still find this claim term indefinite. And, as I have already discussed, the specification does not clearly link an SDR to the specified function here of

“receiving wireless communication in the apparatus,” so a POSITA would not view an SDR as corresponding, clearly-linked, or sufficient structure for this function.

50. I also understand that NEC asserts the similar claim term reciting “computer program code configured to receive wireless communication in the apparatus” does not identify specific structure for performing the recited function of “receive wireless communication in the apparatus.” Here, while the words “means for” are not used, the term “computer program code configured to” would be recognized by a POSITA as a nonstructural nonce phrase. And, because the claim limitation is set forth in functional language without the identification of sufficient structure to perform the claimed function, I understand that the term is to be construed subject to 35 U.S.C. § 112, ¶ 6. I understand that NEC’s position is that this term is subject to 35 U.S.C. § 112, ¶ 6, but is indefinite because there is no specification structure that is clearly linked, sufficient to perform, or corresponds to this function. I agree with NEC that a POSITA would not find the claim language reciting “computer program code being configured to …” to be specific structure, material, or acts for performing the claimed function. The claim merely suggests that computer code might be used to achieve the claimed function, but it does not identify any such computer code, or even the algorithm(s) that might be implemented using computer code. The claim’s general recitation of “computer program code” does not identify any specific algorithm, steps, instructions, method, or computer program code for performing the recited function. A POSITA would find this claim language to be a generic recitation of a function to be performed by some unspecified computer program code. As a result, a POSITA would find that this “computer program code configured to …” claim term is to be construed under 35 U.S.C. § 112, ¶ 6. In other words, to understand this claim term, a POSITA would look to the specification for any corresponding, clearly-linked sufficient algorithm to achieve the claimed function. As

discussed above, there is none and a POSITA would find that this term is indefinite. Specifically, the specification does not disclose any specific computer program code, algorithms, steps, or instructions for performing this function. As I have explained above for the similar “means for ...” term, the specification does not disclose any corresponding, clearly-linked, or sufficient computer program code (including any specific instructions, algorithms, or steps) that acts as “computer program code configured to receive wireless communication in the apparatus.” Also, WSOU’s proposed construction does not identify any specific computer program code (e.g., specific algorithms, methods, or instructions) for performing the claimed function. As a result, in light of the specification, a POSITA would find the claim term reciting “computer program code configured to receive wireless communication in the apparatus” does not reasonably inform a POSITA of what specific computer program code performs the recited, specific function. This claim term is therefore indefinite.

51. The third related limitation here recites “the processor being configured to receive wireless communication in an apparatus.” My understanding is that NEC asserts that this term is also subject to 35 U.S.C. § 112, ¶ 6 because NEC asserts that the claim does not disclose sufficient, specific structure for performing the recited function of being “configured to receive wireless communication in an apparatus.” My further understanding is that NEC asserts this term is indefinite because there is no specification structure that is clearly linked, sufficient to perform, or corresponds to this function. I agree with NEC that a POSITA would not find the claim language reciting “the processor being configured to ...” perform this function to be a specific structure, material, or act. Indeed, the claim indicates that the processor is “configured to” perform the claimed function, which would indicate that some structure in the form of code or an algorithm would be required to actually achieve the claimed function. A “processor” as recited in this claim

term is nothing more than a general-purpose processor. The claims do not recite a specific processor having been configured to perform the recited function of having been configured “to initiate an inquiry from an apparatus to at least one other apparatus.” Further, in order to “configure” the processor to perform the function, a POSITA would understand that the processor must be programmed with specific instructions and algorithms that perform the claimed function. Here, the claim language of claim 25 where this term appears does not identify any specific algorithm, steps, instructions, or method for performing this specific, recited function. Instead, it only recites:

[25.2.a] [the processor being configured to] receive wireless communication in an apparatus;

For these reasons, a POSITA would find that the “the processor being configured to” recites nothing more than a general-purpose processor, and not specific structure necessary to perform the recited function. As a result, a POSITA would find that the claim term “the processor being configured to receive wireless communication in an apparatus” is subject to 35 U.S.C. § 112, ¶ 6. A POSITA also would find that this term is indefinite because the specification does not disclose any corresponding, clearly-linked sufficient structure for performing this function. As I have explained in here for the similar “means for …” and “computer program code configured to …” terms, the specification does not disclose any corresponding, clearly-linked, or sufficient computer program code (including any specific instructions, algorithms, or steps) for performing the claimed function. As a result, the specification does not disclose any “processor being configured to” perform the specified function, to the extent the configuration is done through computer program code and software. Also, WSOU’s proposed construction does not identify any special-purpose processor, computer program code, or other structure (e.g., specific algorithms, methods, or instructions) for performing the claimed function and configuring the processor as recited by the

claim. As a result, in light of the specification, a POSITA would find the claim term reciting “the processor being configured to receive wireless communication in an apparatus” does not reasonably inform a POSITA of what specific structure, materials, or acts, performs the recited, specific function or otherwise configures the computer. This claim term is therefore indefinite.

- (b) **“means for if the wireless communication includes an inquiry requesting characteristic information, determining characteristic information”; “computer program code configured to if the wireless communication includes an inquiry requesting characteristic information, determine characteristic information”; and “the processor being configured to if the wireless communication includes an inquiry requesting characteristic information, determine characteristic information”**

“Means for if the wireless communication includes an inquiry requesting characteristic information, determining characteristic information” – ’213 Patent Claim 26

“Computer program code configured to if the wireless communication includes an inquiry requesting characteristic information, determine characteristic information” – ’213 Patent Claim 24

“The processor being configured to if the wireless communication includes an inquiry requesting characteristic information, determine characteristic information” – ’213 Patent Claim 25

NEC’s Construction	WSOU’s Construction
<p><i>Indefinite.</i></p> <p>“Means for ...,” and “computer program code configured to ...,” and “the processor being configured to ...” terms all governed by 35 U.S.C. § 112, ¶ 6.</p> <p><u>Function:</u> if the wireless communication includes an inquiry requesting characteristic information, [determining / determine] characteristic information.</p> <p><u>Structure/material/acts:</u> <i>No sufficient structure disclosed or clearly-linked; no specific hardware, software, program, algorithm, or steps.</i></p>	<p><u>“Means for if the wireless communication includes ... determining characteristic information”:</u> Governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite.</p> <p><u>Function:</u> if the wireless communication includes an inquiry requesting characteristic information, determining characteristic information.</p> <p><u>Structure/material/acts:</u> For example, apparatus B (1302) and processes 1 and 2 of Fig. 13, <u>communications module 230 of Fig. 2, memory 330 and processor 300 of Figs. 3, 7A, 8A, 9A, or 11, software-defined radio module</u></p>

	<p><u>1102 and software modules 1110-1118 of Fig. 12, and steps 1452 and 1458 of Fig. 14B,</u> and the corresponding portions of the specification at <u>6:17-30, 6:50-7:22, 8:60-9:5, 17:8-52, 18:4-6, 18:45-60, 19:62-20:4, and 20:8-24, 22:11-15, and 22:26-35,</u> and equivalents thereof.</p> <p><u>“Computer program code configured to if the wireless communication includes ... determine characteristic information”:</u> Not governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite. No construction necessary – plain and ordinary meaning.</p> <p><u>To the extent, however, that the Court treats the term as means-plus-function, the function and structure identified above (except that “processor 300” and “software-defined radio module 1102” were not identified for this term).</u></p> <p><u>“The processor being configured to if the wireless communication includes ... determine characteristic information”:</u> Not governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite. No construction necessary – plain and ordinary meaning.</p> <p><u>To the extent, however, that the Court treats the term as means-plus-function, the function and structure identified above.</u></p>
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52. The three proposed claim terms for construction here are similar to those already construed in Section III.A.1(c). In Section III.A.1(c), I analyzed the two claim terms “means for determining local characteristic information in the apparatus” (claim 22) and “computer program code configured to determine local characteristic information in the apparatus” (claim 8). Here, the “means for ...” term for claim 26 adds an introductory conditional clause of “if the wireless communication includes an inquiry requesting characteristic information,” and states that what is then determined is “characteristic information” rather than necessarily “local” characteristic information, as compared to claim 22. The “computer program code configured to ...” term of

claim 24 has similar differences with the “computer program code configured to … term of claim 8.” As I explain below, these differences are not significant for purposes of whether these terms would be definite to a POSITA. As a result, the two terms “means for if the wireless communication includes an inquiry requesting characteristic information, determining characteristic information” (claim 26) and “computer program code configured to if the wireless communication includes an inquiry requesting characteristic information, determine characteristic information” (claim 24) would be indefinite to a POSITA for at least the same reasons as I explained in Section III.A.1(c) for the similar “means for …” and “computer program code being configured to …” there. See Section III.A.1(c).

53. My understanding is that NEC and WSOU agree that of these three related terms, the term “means for if the wireless communication includes an inquiry requesting characteristic information, determining characteristic information” is a means plus function term subject to 35 U.S.C. § 112, ¶ 6. This requires an analysis of what a POSITA would identify is the specified function from the claims, as well as the corresponding structure for performing that function from the specification. My understanding is that NEC and WSOU agree that the specific function is “if the wireless communication includes an inquiry requesting characteristic information, determining characteristic information.” However, my understanding is that NEC’s position is that there is no sufficient corresponding, clearly-linked structure, material, or acts for performing this function, and that it is therefore indefinite. WSOU, on the other hand, had initially proposed that the corresponding specification structure is:

For example, apparatus B (1302) and processes 1 and 2 of Fig. 13, and the corresponding portions of the specification at 19:62-20:4 and 20:8-24, and equivalents thereof.

As I explain below, a POSITA would not find that this portion of the specification identified by WSOU is clearly linked, sufficient structure for performing the specified function. As a result, a POSITA would find this “means for …” term to be indefinite.

54. Because NEC and WSOU agree that this “means for …” term is subject to 35 U.S.C. § 112, ¶ 6, I have looked to the specification to see if it clearly links any corresponding, sufficient structure for performing the recited function of “if the wireless communication includes an inquiry requesting characteristic information, determining characteristic information.” The specification does not recite any corresponding, sufficient, or clearly linked structure for performing this function. A POSITA would understand that “if the wireless communication includes an inquiry requesting characteristic information, determining characteristic information” is a specific type of function that requires the apparatus to determine at least one type of characteristic information in the wireless communication inquires sending a request for this characteristic information. The specification gives some general examples of what “characteristic information” might be, saying:

Apparatus A 1300 may also determine characteristics pertaining to itself. Local characteristics may include all of the information discussed above with respect to remote characteristics but from the perspective of the initiating apparatus.

’213 patent at 20:25–29. This includes describing remote characteristic information, which a remote apparatus (e.g., Apparatus B of Figure 13) may provide when requested by a requesting apparatus (e.g., Apparatus A of Figure 13). The specification states:

For instance, apparatus status information may include apparatus communication capabilities and/or preferences, current apparatus power condition, current apparatus operational condition, current communication activity including transports active in the apparatus and a number of messages pending for each active transport, etc. Information pertaining to environmental conditions may include signals sensed in proximity to the apparatus that may potentially cause interference, communication scheduled in the apparatus, the

identification of other apparatuses operating in proximity, etc. Some or all of this information may be provided in response to the inquiry of apparatus A 1300.

'213 patent at 20:13–24. However, the specification does not identify any structure of an apparatus that performs the function of “determining characteristic information in the apparatus.” Instead, the specification simply says that the apparatus can determine certain various types of characteristic information. Apparatus B in Figure 13, which is what transmits remote characteristic information that it determines upon a request for such information from Apparatus A, is largely a black box, and does not disclose any specific hardware, software, algorithms, steps, computer program code, instructions, or other structure sufficient to determine its characteristic information. The specification also does not clearly link any such structure to this function of “determining characteristic information in the apparatus.” A POSITA would not understand the specification to disclose, much less clearly link, any particular structure for performing this function. Because the specification does not disclose or clearly link sufficient structure for performing this specific function, a POSITA would find that the claim term “means for determining local characteristic information in the apparatus” is indefinite.

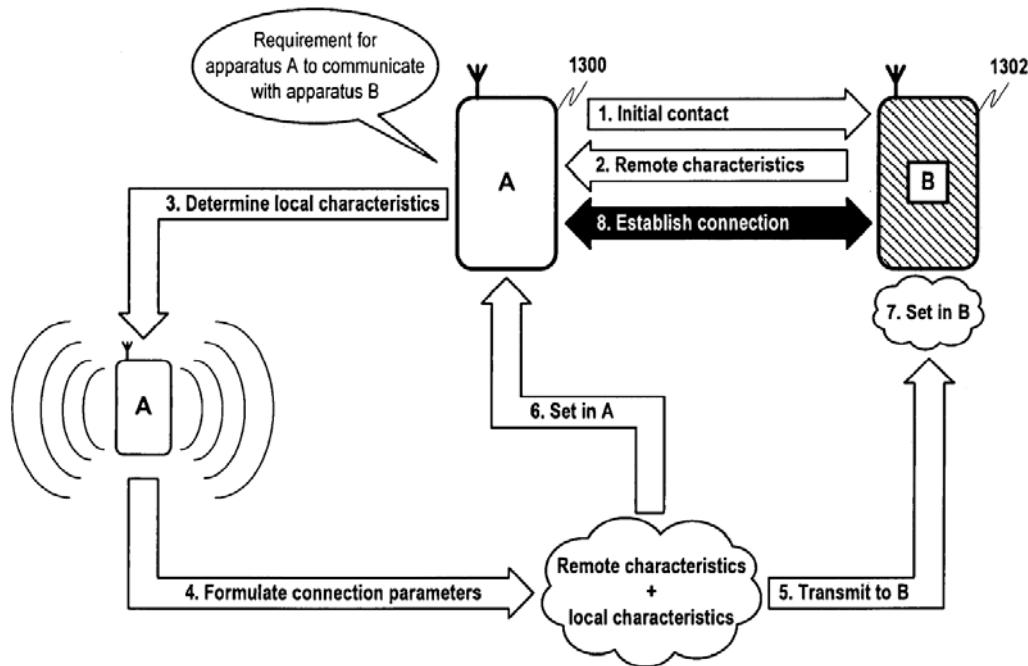
55. This indefiniteness is further confirmed by WSOU’s proposed construction of the corresponding structure. As noted above, WSOU initially proposed the following as corresponding structure:

For example, apparatus B (1302) and processes 1 and 2 of Fig. 13, and the corresponding portions of the specification at 19:62-20:4 and 20:8-24, and equivalents thereof.

The specification does not clearly link this structure to performing the claimed function, and this structure is not sufficient to perform the claimed function. In Fig. 13, “Apparatus B” is drawn as a rectangle with the letter “B” in the center. There is no explanation of what happens inside of the box labeled “B,” and there is no discussion about what feature, code, algorithm, or portion of “A”

might receive remote characteristic information into the apparatus. Box “B” does not provide corresponding *structure* to perform the specific function of “if the wireless communication includes an inquiry requesting characteristic information, determining characteristic information.” Further, the preamble of the claim language already states that the “apparatus” comprises “means for if the wireless communication includes an inquiry requesting characteristic information, determining characteristic information.” WSOU’s proposed identification of box “B” as corresponding structure is merely redundant of the functional claim language used, i.e., an apparatus for determining characteristic information corresponding to the apparatus. A POSITA would not understand box “B” to be clearly linked structure for performing this function. Indeed, a POSITA would not find box B” to provide *structure*. It is instead a graphical placeholder for structure that the patent never specifically identifies. As a result, the specification’s “Apparatus B” is not sufficient to perform the claimed function, because there is no disclosure of the required hardware, software, algorithms, steps, computer program code, instructions, or other structure of Apparatus B that is sufficient to perform this claimed function. WSOU’s proposed corresponding structure also identifies “processes 1 and 2 of Fig. 13, and the corresponding portions of the specification at 19:62-20:4 and 20:8-24.” Figure 13, reproduced below, is high-level and fails to provide any meaningful structural detail for what actually happens inside of box “B.” Although processes 2 and 3 disclose “2. Remote characteristics” and “3. Determine local characteristics,” this figure does not disclose any specific structure, hardware, software, algorithms, steps, computer program code, or instructions for performing these functions. Instead, a POSITA would understand Figure 13 to simply be disclosing a functional description that Apparatus B sends information about its “remote characteristics” to Apparatus A, and then Apparatus A will also determine its own local characteristics. Notably, neither of these functions of transmitting remote

characteristics from Apparatus B to Apparatus A (“2. Remote characteristics” or Apparatus A determining its own local characteristics unprompted and without an inquiry from Apparatus B (“3. Determine local characteristics”) is actually the recited, specific function that instead states “*if the wireless communication includes an inquiry requesting characteristic information, determining characteristic information*” (emphasis added).



WSOU's proposed construction also identifies the '213 patent at 19:62-20:4 and 20:8-24, which state (with emphasis added):

In this non-limiting example, apparatus A 1300 has a requirement to interact with apparatus B 1302 in FIG. 13. Such a requirement to establish communication may be initiated by, for example, applications and/or utilities executing on apparatus A 1300, user interaction with apparatus A 1300, etc. In response to this requirement, *apparatus A 1300 may send a wireless inquiry to apparatus B 1302. The wireless inquiry may be sent, for example, utilizing a channel (e.g., an initialization channel) that is known to (e.g., predefined or predetermined) each apparatus.*

* * * * *

Remote characteristics comprise information related to the apparatus with which communication is desired (e.g., apparatus B 1302), and may include information regarding apparatus status and/or environmental conditions proximate to the apparatus. For instance, apparatus status information may include apparatus communication capabilities and/or preferences, current apparatus power condition, current apparatus operational condition, current communication activity including transports active in the apparatus and a number of messages pending for each active transport, etc. Information pertaining to environmental conditions may include signals sensed in proximity to the apparatus that may potentially cause interference, communication scheduled in the apparatus, the identification of other apparatuses operating in proximity, etc. ***Some or all of this information may be provided in response to the inquiry of apparatus A 1300.***

None of the above passage identifies any structure, by which Apparatus A determines characteristic information if it receives a wireless inquiry. Instead, the bolded portion of this passage simply provides a functional description of determining characteristic information, including what might be a characteristic and when it can be determined. This passage also does not disclose any structure sufficient for actually receiving determining characteristic information in Apparatus B. The passage that WSOU points to in its proposed construction does not disclose any specific hardware, software, algorithms, steps, computer program code, instructions, or other structure that performs this function which is sufficient, or clearly link any such structure to the function of “if the wireless communication includes an inquiry requesting characteristic information, determining characteristic information.” Further, the majority of these passages, which are not bolded above, merely discuss certain possible types of characteristic information. ’213 patent at 20:10–24 (identifying, for example, “apparatus status and/or environmental conditions proximate to the apparatus,” including apparatus communication capabilities and/or preferences, current apparatus power condition, current apparatus operational condition, current communication activity, proximate signal interference, scheduled communications, and other apparatuses operating in proximity). The specification does not provide any, much less all,

sufficient structure for determining any of these characteristics by the apparatus if there is an inquiry from another apparatus for this information. For all of these reasons, a POSITA would not understand Figure 13, and the corresponding portions of the specification at 19:62-20:4 and 20:8-24, to disclose corresponding, clearly-linked, sufficient structure for performing the claimed function. Because there is no corresponding, clearly-linked, sufficient structure to “if the wireless communication includes an inquiry requesting characteristic information, determining characteristic information, a POSITA would conclude that the term “means for if the wireless communication includes an inquiry requesting characteristic information, determining characteristic information” is indefinite.

56. I was informed that WSOU has said that it has supplemented its initial proposed structure identified above with the following additional proposed structure indicated in red below:

Structure/material/acts: For example, apparatus B (1302) and processes 1 and 2 of Fig. 13, communications module 230 of Fig. 2, memory 330 and processor 300 of Figs. 3, 7A, 8A, 9A, or 11, software-defined radio module 1102 and software modules 1110-1118 of Fig. 12, and steps 1452 and 1458 of Fig. 14B, and the corresponding portions of the specification at 6:17-30, 6:50-7:22, 8:60-9:5, 17:8-52, 18:4-6, 18:45-60, 19:62-20:4, and 20:8-24, 22:11-15, and 22:26-35, and equivalents thereof.

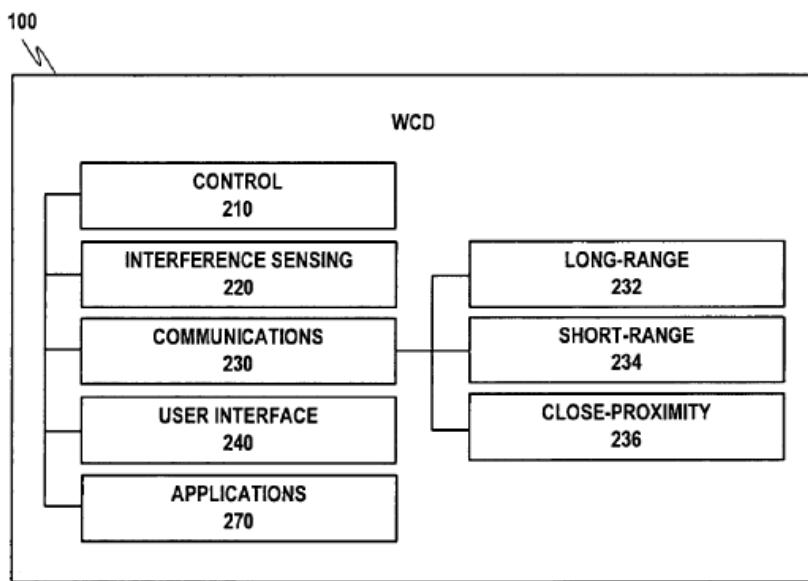
However, a POSITA would still find this claim term indefinite, because the specification does not clearly link this additional structure to performing the claimed function, and this structure is not sufficient to perform the claimed function. Although the term “characteristic” appears in the ’213 patent 78 times, it appears in only one passage in the new disclosures, at 22:26-35, as set forth below:

If in step 1452 a determination is made that a characteristic information inquiry is present in the received communication, then the receiving apparatus may formulate characteristic information concerning itself (e.g., in accordance with the various examples presented herein). While characteristic information formulation is shown as step 1458 in the FIG. 14B process, the formulation of

characteristic information is not strictly limited to this instance. The formulation of characteristic information may also occur before receiving the inquiry, periodically, etc.

Like the other passages discussed above, this passage discloses only that the apparatus, a generic, “black box” structure, “may formulate characteristic information concerning itself.” As a result, this too fails to disclose anything about how to “determine” the characteristic information, nor does it identify what hardware, software, computer program code, algorithms, steps, instructions, or other structure does so. Figure 2, which WSOU also identifies and is shown below, similarly does not provide any detail or information about any structure that performs this “determining characteristic information” function.

FIG. 2



As shown above, Figure 2 shows certain generic components as a “black box,” including communications module 230. But Figure 2 does not identify which components, if any, perform the “determining characteristic information” function, much less how they do so. Similarly, Figures 3, 7A (shown below), 8A, 9A, and 11 (also shown below), which WSOU also identifies,

show certain generic components as a “black box,” including memory 330 and processor 300, but do not identify which components, if any, perform the “determining characteristic information” function or how.

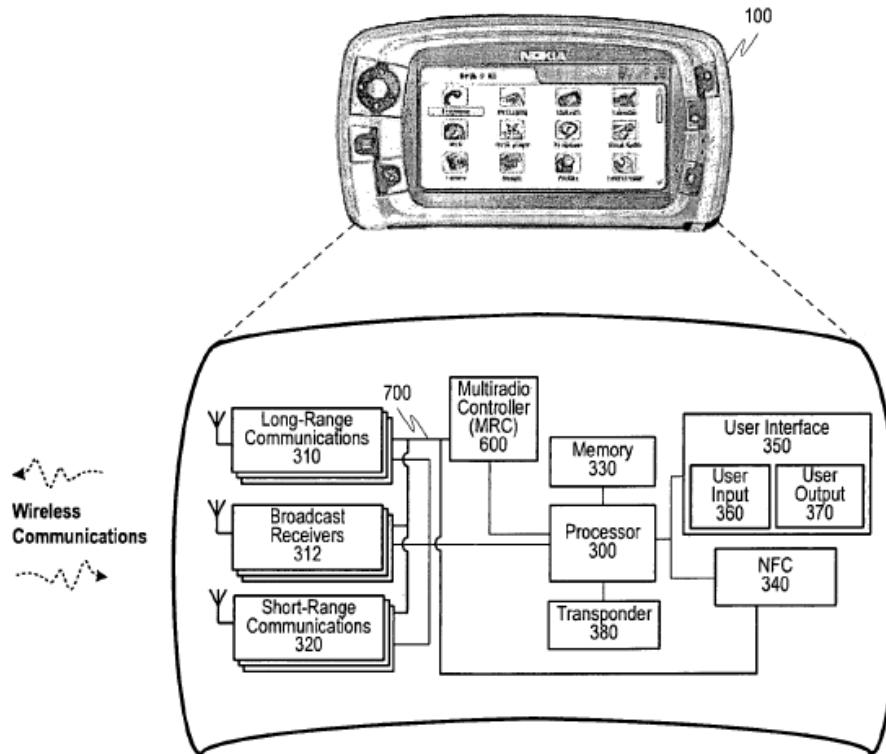
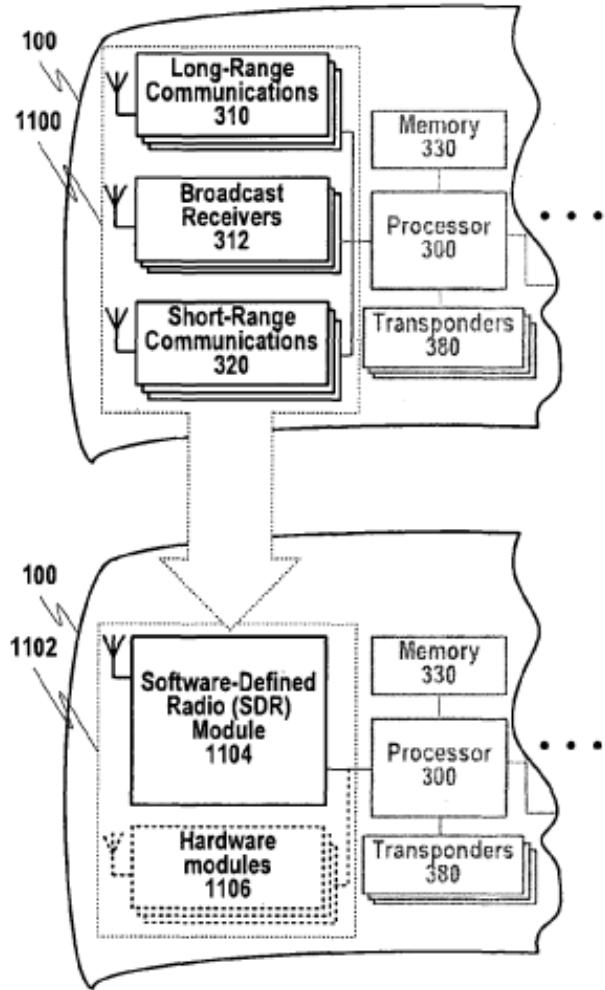
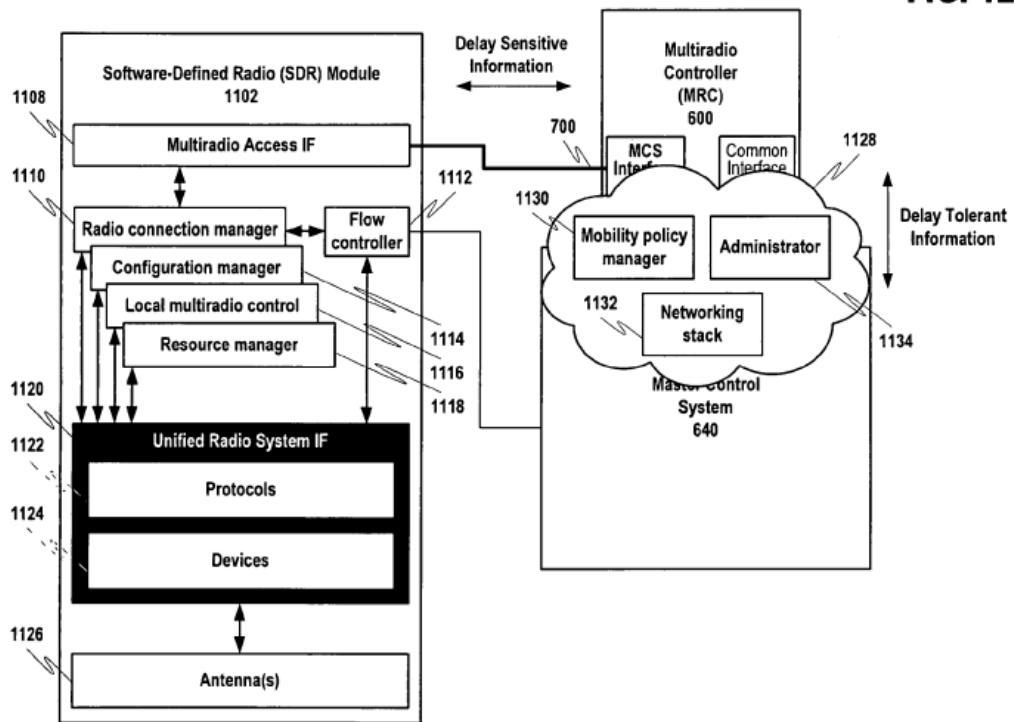
FIG. 7A

FIG. 11

Further, Figure 12 and its disclosure of SDR 1102, reproduced below, similarly do not disclose that SDR 1102 performs this “determining characteristic information” function, or any hardware, software, algorithms, steps, computer program code, instructions, or other structure for doing so.

FIG. 12

As shown above, the example of Software-Defined Radio Module 1102 in Figure 12 has a Multiradio Access IF 1108, certain “manager” modules 1110, a “flow controller” 1112, a “Unified Radio System IF” 1120 having Protocols 1122 and Devices 1124, and one or more Antennas 1126. None of these sub-components is disclosed or linked by the specification to, “if the wireless communication includes an inquiry requesting characteristic information, determining characteristic information.” *See* '213 patent at 18:9–60 (describing these components). A POSITA would not understand from the specification that SDR 1102 of Figure 12 performs this “determining characteristic information” function, or that the SDR has sufficient structure to do so for the different examples and embodiments disclosed.

57. WSOU’s identification of a software defined radio (SDR) as part of the corresponding structure for this “means for” terms raises an additional definiteness problem to a POSITA. In general, an SDR is a type of radio in which software defines how the radio

communicates, such as which communications protocol to emulate. As an example, using some of the exemplary communications protocols from the '213 patent specification, and SDR might be able to communicate using two or more of the long-range communications protocols (GSM, WCDMA, GPRS, PCS, or WiMax.) '213 patent at 7:23–47 and Fig. 3. In order to do so, however, the SDR would need to have particular software, including specific algorithms, in order to be programmed and configured to communicating using each long-range communications protocols or standards, as well as to switch between one protocol or standard to another for communications. It is this software that distinguishes the SDR from a more traditional radio only able to communicate using one communications protocol or standard. But the specification does not disclose any specific software, algorithms, instructions, or other specific structure as is needed for an SDR, nor does it disclose any examples of any such software, algorithms, or instructions for any of the identified long-range, short-range, broadcast, or close proximity communications technologies. Further, there are many different ways, algorithms, instructions, and other structures that a POSITA could use to program and SDR to carry out these different communications technologies. As a result, all the specification discloses is a black box, general-purpose SDR having no specific structure and incapable of communicating using any of the identified long-range, short-range, broadcast, or close-proximity communications technologies to perform the claimed function. My understanding is that for definiteness, the specification must disclose specific structure, including for software-implemented inventions and processing specific software, algorithms, and instructions, for there to be a special-purpose processor or structure (here, and SDR) that is sufficient to carry out the specified function here of, “if the wireless communication includes an inquiry requesting characteristic information, determining characteristic information.” Because there is no such disclosure or clear-linking of any specific

software, algorithms, or instructions, then even under WSOU’s proposal that the corresponding structure includes an SDR, a POSITA would still find this claim term indefinite. And, as I have already discussed, the specification does not clearly link an SDR to the specified function here of, “if the wireless communication includes an inquiry requesting characteristic information, determining characteristic information,” so a POSITA would not view an SDR as corresponding, clearly-linked, or sufficient structure for this function.

58. I also understand that NEC asserts the similar claim term reciting “computer program code configured to if the wireless communication includes an inquiry requesting characteristic information, determine characteristic information” does not identify specific structure for performing the recited function of “if the wireless communication includes an inquiry requesting characteristic information, determine characteristic information.” Here, while the words “means for” are not used, the term “computer program configured to” would be recognized by a POSITA as a nonstructural nonce phrase. And, because the claim limitation is set forth in functional language without the identification of sufficient structure to perform the claimed function, I understand that the term is to be construed subject to 35 U.S.C. § 112, ¶ 6. I understand that NEC’s position is that this term is subject to 35 U.S.C. § 112, ¶ 6, but is indefinite because there is no specification structure that is clearly linked, sufficient to perform, or corresponds to this function. I agree with NEC that a POSITA would not find the claim language reciting “computer program code being configured to …” to be specific structure, material, or acts for performing the claimed function. The claim merely suggests that computer code might be used to achieve the claimed function, but it does not identify any such computer code, or even the algorithm(s) that might be implemented using computer code. The claim’s general recitation of “computer program code” does not identify any specific algorithm, steps, instructions, method, or computer program

code for performing the recited function. A POSITA would find this claim language to be a generic recitation of a function to be performed by some unspecified computer program code. As a result, a POSITA would recognize that this “computer program code configured to …” is to be construed under 35 U.S.C. § 112, ¶ 6. In other words, to understand this claim term, a POSITA would look to the specification for any corresponding, clearly-linked sufficient structure to achieve the claimed function. As discussed above, there is none and a POSITA would find that this term is indefinite. Specifically, the specification does not disclose any specific computer program code, algorithms, steps, or instructions for performing this function. As I have explained above for the similar “means for …” term, the specification does not disclose any corresponding, clearly-linked, or sufficient computer program code (including any specific instructions, algorithms, or steps) that acts as “computer program code configured to if the wireless communication includes an inquiry requesting characteristic information, determine characteristic information.” Also, WSOU’s proposed construction does not identify any specific computer program code (e.g., specific algorithms, methods, or instructions) for performing the claimed function. As a result, in light of the specification, a POSITA would find the claim term reciting “computer program code configured to if the wireless communication includes an inquiry requesting characteristic information, determine characteristic information” does not reasonably inform a POSITA of what specific computer program code performs the recited, specific function. This claim term is therefore indefinite.

59. The third related limitation here recites “the processor being configured to if the wireless communication includes an inquiry requesting characteristic information, determine characteristic information.” My understanding is that NEC asserts that this term is also subject to 35 U.S.C. § 112, ¶ 6 because NEC asserts that the claim does not disclose sufficient, specific

structure for performing the recited function of being “configured to if the wireless communication includes an inquiry requesting characteristic information, determine characteristic information.” My further understanding is that NEC asserts this term is indefinite because there is no specification structure that is clearly linked, sufficient to perform, or corresponds to this function. I agree with NEC that a POSITA would not find the claim language reciting “the processor being configured to …” perform this function to be a specific structure, material, or act. A “processor” as recited in this claim term is nothing more than a general-purpose processor. The claims do not recite a specific processor having been configured to perform the recited function of having been configured “to if the wireless communication includes an inquiry requesting characteristic information, determine characteristic information.” Further, in order to “configure” the processor to perform the function, a POSITA would understand that the processor must be programmed with specific instructions and algorithms that perform the claimed function. Here, the claim language of claim 25 where this term appears does not identify any specific algorithm, steps, instructions, or method for performing this specific, recited function. Instead, it only recites:

[25.2.b] [the processor being configured to] if the wireless communication includes an inquiry requesting characteristic information, determine characteristic information

For these reasons, a POSITA would find that the “the processor being configured to” recites nothing more than a general purpose processor, and not specific structure necessary to perform the recited function. As a result, a POSITA would find that the claim term “the processor being configured to if the wireless communication includes an inquiry requesting characteristic information, determine characteristic information” is subject to 35 U.S.C. § 112, ¶ 6. A POSITA also would find that this term is indefinite because the specification does not disclose any corresponding, clearly-linked sufficient structure for performing this function. As I have explained above for the similar “means for …” and “computer program code configured to …” terms, the

specification does not disclose any corresponding, clearly-linked, or sufficient computer program code (including any specific instructions, algorithms, or steps) for performing the claimed function. See also Section III.A.1(c). As a result, the specification does not disclose any “processor being configured to” perform the specified function, to the extent the configuration is done through computer program code and software. Also, WSOU’s proposed construction does not identify any special-purpose processor, computer program code, or other structure (e.g., specific algorithms, methods, or instructions) for performing the claimed function and configuring the processor as recited by the claim. As a result, in light of the specification, a POSITA would find the claim term reciting “the processor being configured to if the wireless communication includes an inquiry requesting characteristic information, determine characteristic information” does not reasonably inform a POSITA of what specific structure, materials, or acts, performs the recited, specific function or otherwise configures the computer. This claim term is therefore indefinite.

- (c) **“means for responding to the inquiry, the response comprising the characteristic information”; “computer program code configured to respond to the inquiry, the response comprising the characteristic information”; and “the processor being configured to respond to the inquiry, the response comprising the characteristic information”**

“Means for responding to the inquiry, the response comprising the characteristic information” – ’213 Patent Claim 26

“Computer program code configured to respond to the inquiry, the response comprising the characteristic information” – ’213 Patent Claim 24

“The processor being configured to respond to the inquiry, the response comprising the characteristic information” – ’213 Patent Claim 25

NEC’s Construction	WSOU’s Construction
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Indefinite.

“Means for ...,” and “computer program code configured to ...,” and “the processor being configured to ...” terms all governed by 35 U.S.C. § 112, ¶ 6.

Function: [responding / to respond] to the inquiry, the response comprising the characteristic information.

Structure/material/acts: *No sufficient structure disclosed or clearly-linked; no specific hardware, software, program, algorithm, or steps.*

Means for responding ... characteristic information

information: Governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite.

Function: responding to the inquiry, the response comprising the characteristic information.

Structure/material/acts: For example, apparatus B (1302) and process 2 of Fig. 13, communications module 230 of Fig. 2, memory 330 and processor 300 of Figs. 3, 7A, 8A, 9A, or 11, software-defined radio module 1102 and software modules 1110-1118 of Fig. 12, and step 1460 of Fig. 14B, and the corresponding portions of the specification at 6:17-30, 6:50-7:22, 8:60-9:5, 17:8-52, 18:4-6, 18:45-60, 20:4-824, 22:11-15, and 22:35-55, and equivalents thereof.

“Computer program code configured to respond ... characteristic information”: Not governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite. No construction necessary – plain and ordinary meaning.

To the extent, however, that the Court treats the term as means-plus-function, the function and structure identified above (except that “processor 300” and “software-defined radio module 1102” were not identified for this term).

“The processor being configured to respond ... characteristic information”: Not governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite. No construction necessary – plain and ordinary meaning.

To the extent, however, that the Court treats the term as means-plus-function, the function and structure identified above.

60. My understanding is that NEC and WSOU agree that of these related terms, the term “means for responding to the inquiry, the response comprising the characteristic information” is a means plus function term subject to 35 U.S.C. § 112, ¶ 6. This requires an analysis of what a POSITA would identify is the specified function from the claims, as well as the corresponding structure for performing that function from the specification. My understanding is that NEC and WSOU agree that the specific function is “responding to the inquiry, the response comprising the characteristic information.” However, my understanding is that NEC’s position is that there is no sufficient corresponding, clearly-linked structure, material, or acts for performing this function, and that it is therefore indefinite. WSOU, on the other hand, had initially proposed that the corresponding specification structure is:

For example, apparatus B (1302) and process 2 of Fig. 13, and the corresponding portions of the specification at 20:4-8, and equivalents thereof.

As I explain below, a POSITA would not find that this portion of the specification identified by WSOU is clearly linked, sufficient structure for performing the specified function. As a result, a POSITA would find this “means for …” term to be indefinite.

61. Because NEC and WSOU agree that this “means for …” term is subject to 35 U.S.C. § 112, ¶ 6, I have looked to the specification to see if it clearly links any corresponding, sufficient structure for performing the recited function of “responding to the inquiry, the response comprising the characteristic information.” The specification does not recite any corresponding, sufficient, or clearly linked structure for performing this function. A POSITA would understand that “responding to the inquiry, the response comprising the characteristic information” is a more specific type of function for responding with any and all information and wireless signals, and is not just any communication that might be a response by the apparatus. However, the specification does not identify any structure of an apparatus that performs this responds to an inquiry by

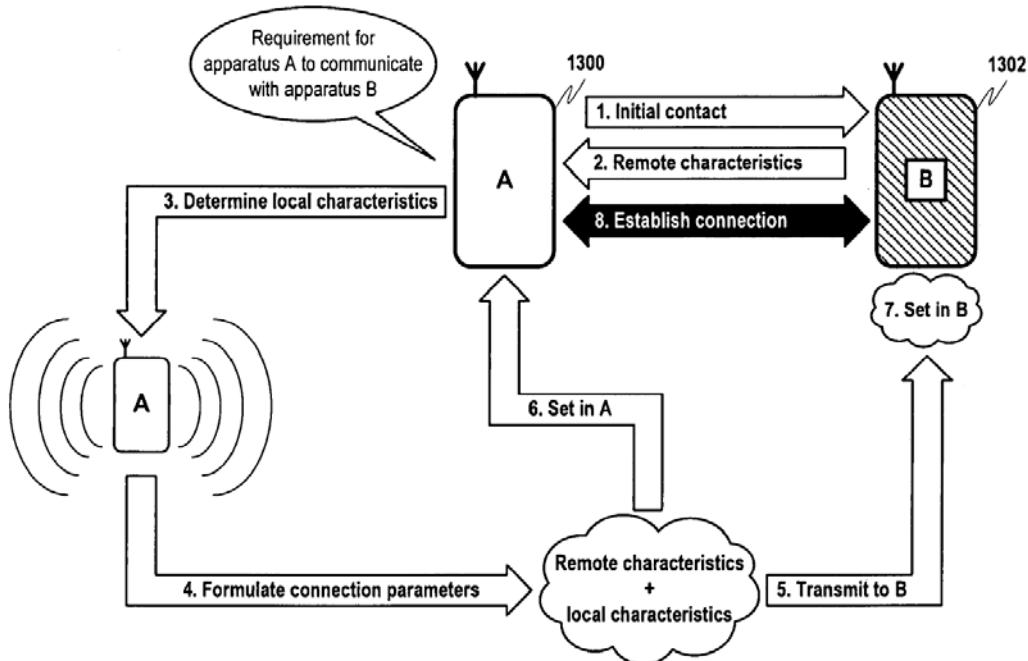
providing characteristic information. The specification itself does not identify any specific structure for responding to an inquiry by providing characteristic information. Instead, the specification at most discloses generally some components (e.g., that the Apparatus B has an antenna and radios for transmitting wireless communications) that may send wireless information generally, including in response to an inquiry. A POSITA would not understand the specification to disclose, much less clearly link, any particular structure for performing the function of “responding to the inquiry, the response comprising the characteristic information.” Because the specification does not disclose or clearly link sufficient structure for performing this specific function, a POSITA would find that the claim term “means for responding to the inquiry, the response comprising the characteristic information” is indefinite.

62. This indefiniteness is further confirmed by WSOU’s proposed construction of the corresponding structure. As noted above, WSOU initially proposed the following as corresponding structure:

For example, apparatus B (1302) and process 2 of Fig. 13, and the corresponding portions of the specification at 20:4-8, and equivalents thereof.

The specification does not clearly link this structure to performing the claimed function, and this structure is not sufficient to perform the claimed function. In Fig. 13, “Apparatus B” is drawn as a rectangle with the letter “B” in the center. There is no explanation of what happens inside of the box labeled “B,” and there is no discussion about what feature, code, algorithm, or portion of “B” might receive remote characteristic information into the apparatus. Box “B” does not provide corresponding *structure* to perform the specific function of “responding to the inquiry, the response comprising the characteristic information.” Further, the preamble of the claim language already states that the “apparatus” comprises this “means for responding to the inquiry, the response comprising the characteristic information.” WSOU’s proposed identification of box “B”

as corresponding structure is merely redundant of the functional claim language used, i.e., an apparatus for responding to the inquiry, the response comprising the characteristic information.” A POSITA would not understand box “B” to be clearly linked structure for performing this “responding to the inquiry, the response comprising the characteristic information” function. Indeed, a POSITA would not find box “B” to provide *structure*. It is instead a graphical placeholder for structure that the patent never specifically identifies. As a result, the specification’s “Apparatus B” is not sufficient to perform the claimed function, because there is no disclosure of the required hardware, software, algorithms, steps, computer program code, instructions, or other structure of Apparatus B that is sufficient to perform this claimed function. WSOU’s proposed corresponding structure also identifies “process 2 of Fig. 13, and the corresponding portions of the specification at 20:4-8.” Figure 13, reproduced below, is high-level and fails to provide any meaningful structural detail for what actually happens inside of box “B.” Although process 2 discloses “remote characteristics” being transmitted by Apparatus B and being received by Apparatus A, this figure does not disclose any specific structure, hardware, software, algorithms, steps, computer program code, or instructions for performing this function. Instead, a POSITA would understand Figure 13 to simply be disclosing a functional description that remote characteristics are transmitted by Apparatus B and received by Apparatus A.



WSOU's proposal also is incorrect because it appears to identify the entirety of Figure 13. At most, it is only the portion "2. Remote characteristics" that a POSITA might look to in seeking to understand how the inventors proposed to "respond to the inquiry, the response comprising the characteristic information." But, as already discussed, Figure 13 and the portion labeled "2. Remote characteristics" fails to disclose any particular or detailed structure for performing this specific function. WSOU's proposed construction also identifies the '213 patent at 20:4-8, which states:

Apparatus B 1302 may acknowledge receipt of the inquiry from apparatus A 1300, and may in turn respond with one or more messages accepting the invitation to communicate and containing remote characteristics.

None of this single sentence identifies any structure, by which Apparatus B sends characteristic information to Apparatus A in response to an inquiry from Apparatus A. At most, this sentence only repeats that functionally, Apparatus B sends remote characteristic information to Apparatus A. This passage also does not disclose any structure sufficient for actually responding to the

inquiry from Apparatus A, the response comprising the characteristic information. In summary, the passage that WSOU points to in its proposed construction does not disclose any specific hardware, software, algorithms, steps, computer program code, instructions, or other structure that performs this function which is sufficient, or clearly link any such structure to the function of “responding to the inquiry, the response comprising the characteristic information.” For all of these reasons, a POSITA would not understand Figure 13, and the corresponding portions of the specification at 20:4-8, to disclose corresponding, clearly-linked, sufficient structure for performing the claimed function. As a result, a POSITA would conclude that the term “means for responding to the inquiry, the response comprising the characteristic information” is indefinite.

63. I was informed that WSOU has said that it has supplemented its initial proposed structure identified above with the following additional proposed structure indicated in red below:

Structure/material/acts: For example, apparatus B (1302) and process 2 of Fig. 13, communications module 230 of Fig. 2, memory 330 and processor 300 of Figs. 3, 7A, 8A, 9A, or 11, software-defined radio module 1102 and software modules 1110-1118 of Fig. 12, and step 1460 of Fig. 14B, and the corresponding portions of the specification at 6:17-30, 6:50-7:22, 8:60-9:5, 17:8-52, 18:4-6, 18:45-60, 20:4-824, 22:11-15, and 22:35-55, and equivalents thereof.

However, a POSITA would still find this claim term indefinite, because the specification does not clearly link this additional structure to performing the claimed function, and this structure is not sufficient to perform the claimed function. Although the term “response” (or some variant thereof) appears in the ’213 patent 30 times, only two passages from the new disclosures reference “responding to the inquiry.” The first passage is set forth below:

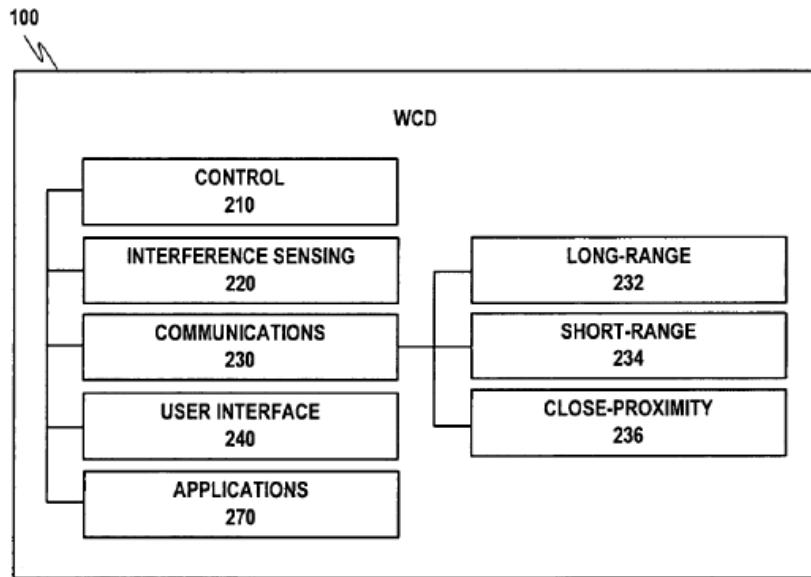
Remote characteristics comprise information related to the apparatus with which communication is desired (e.g., apparatus B 1302), and may include information regarding apparatus status and/or environmental conditions proximate to the apparatus. For instance, apparatus status information may include apparatus communication capabilities and/or preferences, current apparatus

power condition, current apparatus operational condition, current communication activity including transports active in the apparatus and a number of messages pending for each active transport, etc. Information pertaining to environmental conditions may include signals sensed in proximity to the apparatus that may potentially cause interference, communication scheduled in the apparatus, the identification of other apparatuses operating in proximity, etc. Some or all of this information may be provided in response to the inquiry of apparatus A 1300.

'213 patent at 20:8-24. This passage discloses only that the characteristic information "may be provided" in response to the inquiry; it fails to disclose anything about how to "respond" to the inquiry, nor does it identify what hardware, software, computer program code, algorithms, steps, instructions, or other structure does so. The second passage is the following:

A response may then be sent to the inquiring apparatus in step 1460, the response comprising at least the characteristic information. The receiving device may then enter a waiting loop in steps 1462 and 1464. For example, the receiving apparatus may wait for a configuration from the initiating apparatus until a condition is exceeded (e.g., until a duration from the time that the characteristic information response was sent, until a number of retry transmissions has been exceeded, etc.). In the example of a retry limit condition, the receiving apparatus may attempt to resend the characteristic information response in order to ensure that this information was successfully received.

'213 patent at 22:35-46. This too fails to disclose anything about how to "respond" to the inquiry, except that the "receiving apparatus may attempt to resend the characteristic information in response." As discussed above, the receiving apparatus is a generic, "black box" component that is not itself sufficient structure for performing this "responding to the inquiry" function. Figure 2, which WSOU also identifies and is shown below, similarly does not provide any detail or information about any structure that performs this "responding to the inquiry" function.

FIG. 2

As shown above, Figure 2 shows certain generic components as a “black box,” including communications module 230. But Figure 2 does not identify which components, if any, perform the “responding to the inquiry” function, much less how they do so. Similarly, Figures 3, 7A (shown below), 8A, 9A, and 11 (also shown below), which WSOU also identifies, show certain generic components as a “black box,” including memory 330 and processor 300, but do not identify which components, if any, perform the “responding to the inquiry” function or how.

FIG. 7A

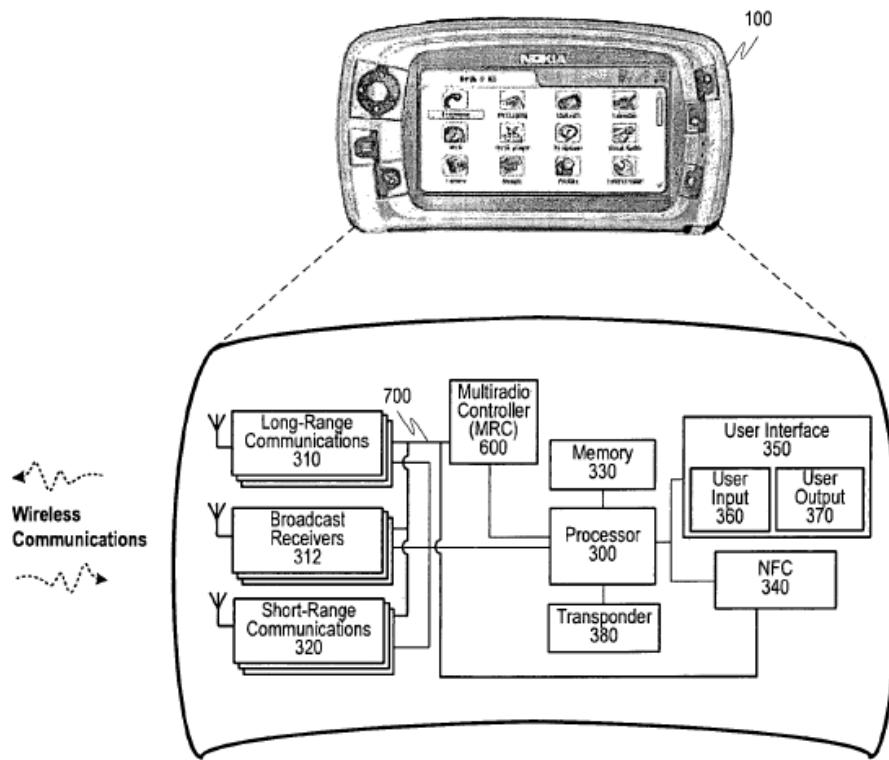
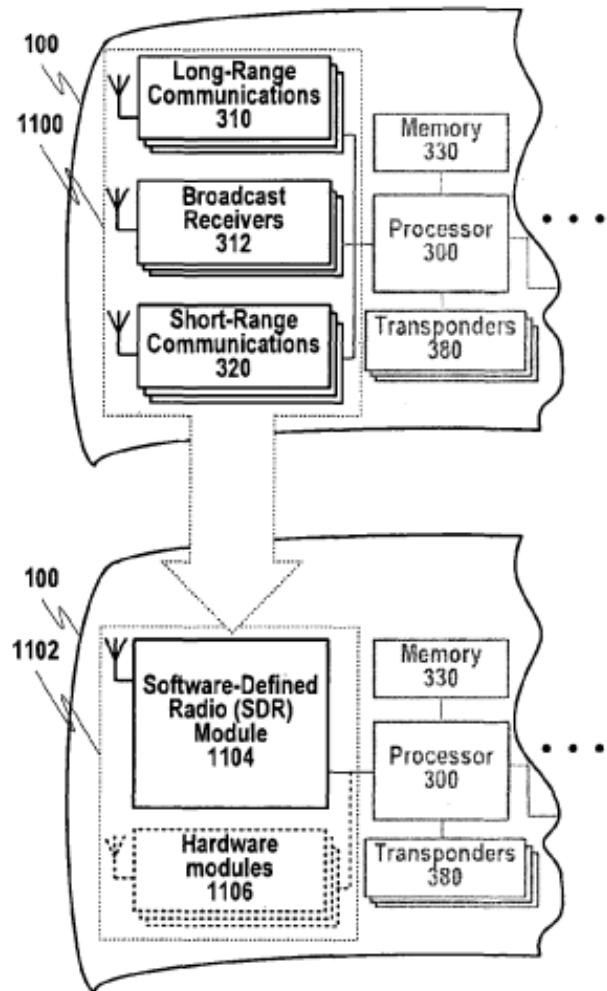
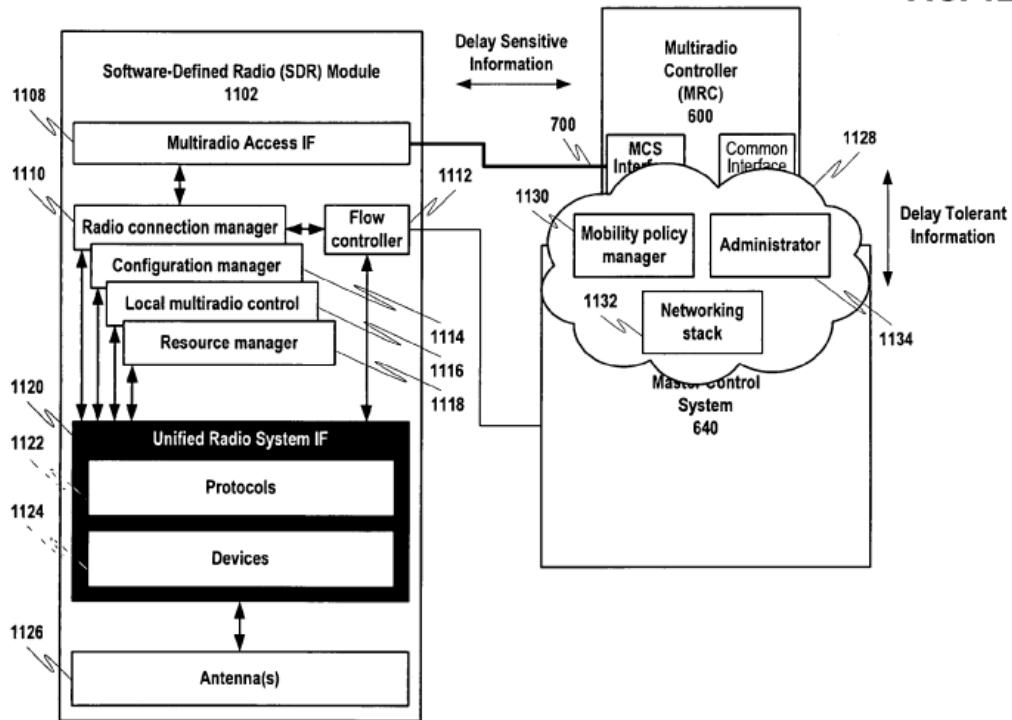


FIG. 11

Further, Figure 12 and its disclosure of SDR 1102, reproduced below, similarly do not disclose that SDR 1102 performs this “responding to the inquiry” function, or any hardware, software, algorithms, steps, computer program code, instructions, or other structure for doing so.

FIG. 12

As shown above, the example of Software-Defined Radio Module 1102 in Figure 12 has a Multiradio Access IF 1108, certain “manager” modules 1110, a “flow controller” 1112, a “Unified Radio System IF” 1120 having Protocols 1122 and Devices 1124, and one or more Antennas 1126. None of these sub-components is disclosed or linked by the specification to “responding to inquiry, the response comprising the characteristic information.” See ’213 patent at 18:9–60 (describing these components). A POSITA would not understand from the specification that SDR 1102 of Figure 12 performs this “responding to the inquiry” function, or that the SDR has sufficient structure to do so for the different examples and embodiments disclosed.

64. WSOU’s identification of a software defined radio (SDR) as part of the corresponding structure for this “means for” terms raises an additional definiteness problem to a POSITA. In general, an SDR is a type of radio in which software defines how the radio communicates, such as which communications protocol to emulate. As an example, using some

of the exemplary communications protocols from the '213 patent specification, and SDR might be able to communicate using two or more of the long-range communications protocols (GSM, WCDMA, GPRS, PCS, or WiMAX.) '213 patent at 7:23–47 and Fig. 3. In order to do so, however, the SDR would need to have particular software, including specific algorithms, in order to be programmed and configured to communicate using each long-range communication protocol or standard, as well as to switch between one protocol or standard to another for communications. It is this software that distinguishes the SDR from a more traditional radio only able to communicate using one communications protocol or standard. But the specification does not disclose any specific software, algorithms, instructions, or other specific structure as is needed for an SDR to perform the claimed function, nor does it disclose any examples of any such software, algorithms, or instructions for any of the identified long-range, short-range, broadcast, or close proximity communications technologies. Further, there are many different ways, algorithms, instructions, and other structures that a POSITA could use to program and SDR to carry out these different communications technologies. As a result, all the specification discloses is a black box, general-purpose SDR having no specific structure and incapable of communicating using any of the identified long-range, short-range, broadcast, or close-proximity communications technologies. My understanding is that for definiteness, the specification must disclose specific structure, including for software-implemented inventions and processing specific software, algorithms, and instructions, for there to be a special-purpose processor or structure (here, and SDR) that is sufficient to carry out the specified function here of “responding to inquiry, the response comprising the characteristic information.” Because there is no such disclosure or clear-linking of any specific software, algorithms, or instructions, then even under WSOU’s proposal that the corresponding structure includes an SDR, a POSITA would still find this claim term

indefinite. And, as I have already discussed, the specification does not clearly link an SDR to the specified function here of “responding to inquiry, the response comprising the characteristic information,” so a POSITA would not view an SDR as corresponding, clearly-linked, or sufficient structure for this function.

65. I also understand that NEC asserts the similar claim term reciting “computer program code configured to respond to the inquiry, the response comprising the characteristic information” does not identify specific structure for performing the recited function of “respond to the inquiry, the response comprising the characteristic information.” Here, while the words “means for” are not used, the term “computer program configured to” would be recognized by a POSITA as a nonstructural nonce phrase. And, because the claim limitation is set forth in functional language without the identification of sufficient structure to perform the claimed function, I understand that the term is to be construed subject to 35 U.S.C. § 112, ¶ 6. I understand that NEC’s position is that this term is subject to 35 U.S.C. § 112, ¶ 6, but is indefinite because there is no specification structure that is clearly linked, sufficient to perform, or corresponds to this function. I agree with NEC that a POSITA would not find the claim language reciting “computer program code being configured to …” to be specific structure, material, or acts for performing the claimed function. The claim merely suggests that computer code might be used to achieve the claimed function, but it does not identify any such computer code, or even the algorithm(s) that might be implemented using computer code. The claim’s general recitation of “computer program code” does not identify any specific algorithm, steps, instructions, method, or computer program code for performing the recited function. A POSITA would find this claim language to be a generic recitation of a function to be performed by some unspecified computer program code. As a result, a POSITA would recognize that this “computer program code configured to …” is to be construed

under 35 U.S.C. § 112, ¶ 6. In other words, to understand this claim term, a POSITA would look to the specification for any corresponding, clearly-linked sufficient structure to achieve the claimed function. As discussed above, there is none and a POSITA would find that this term is indefinite. Specifically, the specification does not disclose any specific computer program code, algorithms, steps, or instructions for performing this function. As I have explained above for the similar “means for …” term, the specification does not disclose any corresponding, clearly-linked, or sufficient computer program code (including any specific instructions, algorithms, or steps) that acts as “computer program code configured to respond to the inquiry, the response comprising the characteristic information.” Also, WSOU’s proposed construction does not identify any specific computer program code (e.g., specific algorithms, methods, or instructions) for performing the claimed function. As a result, in light of the specification, a POSITA would find the claim term reciting “computer program code configured to respond to the inquiry, the response comprising the characteristic information” does not reasonably inform a POSITA of what specific computer program code performs the recited, specific function. This claim term is therefore indefinite.

66. The third related limitation here recites “the processor being configured to respond to the inquiry, the response comprising the characteristic information.” My understanding is that NEC asserts that this term is also subject to 35 U.S.C. § 112, ¶ 6 because NEC asserts that the claim does not disclose sufficient, specific structure for performing the recited function of being “configured to respond to the inquiry, the response comprising the characteristic information.” My further understanding is that NEC asserts this term is indefinite because there is no specification structure that is clearly linked, sufficient to perform, or corresponds to this function. I agree with NEC that a POSITA would not find the claim language reciting “the processor being configured to …” perform this function to be a specific structure, material, or act. A “processor” as recited in

this claim term is nothing more than a general-purpose processor. The claims do not recite a specific processor having been configured to perform the recited function of having been configured “to if the wireless communication includes an inquiry requesting characteristic information, determine characteristic information.” Further, in order to “configure” the processor to perform the function, a POSITA would understand that the processor must be programmed with specific instructions and algorithms that perform the claimed function. Here, the claim language of claim 25 where this term appears does not identify any specific algorithm, steps, instructions, or method for performing this specific, recited function. Instead, it only recites:

[25.2.c] [the processor being configured to] respond to the inquiry,
the response comprising the characteristic information;

For these reasons, a POSITA would find that the “the processor being configured to” recites nothing more than a general purpose processor, and not specific structure necessary to perform the recited function. As a result, a POSITA would find that the claim term “the processor being configured to being configured to respond to the inquiry, the response comprising the characteristic information” is subject to 35 U.S.C. § 112, ¶ 6. A POSITA also would find that this term is indefinite because the specification does not disclose any corresponding, clearly-linked sufficient structure for performing this function. As I have explained above for the similar “means for ...” and “computer program code configured to ...” terms, the specification does not disclose any corresponding, clearly-linked, or sufficient computer program code (including any specific instructions, algorithms, or steps) for performing the claimed function. As a result, the specification does not disclose any “processor being configured to” perform the specified function, to the extent the configuration is done through computer program code and software. Also, WSOU’s proposed construction does not identify any special-purpose processor, computer program code, or other structure (e.g., specific algorithms, methods, or instructions) for performing

the claimed function and configuring the processor as recited by the claim. As a result, in light of the specification, a POSITA would find the claim term reciting “the processor being being configured to respond to the inquiry, the response comprising the characteristic information” does not reasonably inform a POSITA of what specific structure, materials, or acts, performs the recited, specific function or otherwise configures the computer. This claim term is therefore indefinite.

- (d) **“means for receiving further wireless communication in the apparatus, the further wireless communication including a configuration”; “computer program code configured to receive further wireless communication including a configuration, the further wireless communication including a configuration”; and “the processor being configured to receive further wireless communication in the apparatus, the further wireless communication including a configuration”**

“Means for receiving further wireless communication in the apparatus, the further wireless communication including a configuration” – ’213 Patent Claim 26

“Computer program code configured to receive further wireless communication including a configuration, the further wireless communication including a configuration” – ’213 Patent Claim 24

“The processor being configured to receive further wireless communication in the apparatus, the further wireless communication including a configuration” – ’213 Patent Claim 25

NEC’s Construction	WSOU’s Construction
<p><i>Indefinite.</i></p> <p>“Means for …,” and “computer program code configured to …,” and “the processor being configured to …” terms all governed by 35 U.S.C. § 112, ¶ 6.</p> <p><u>Function:</u> [receiving / to receive] further wireless communication in the apparatus, the further wireless communication including a configuration.</p> <p><u>Structure/material/acts:</u> <i>No sufficient structure disclosed or clearly-linked; no specific hardware, software, program, algorithm, or steps.</i></p>	<p><u>“Means for receiving … configuration”:</u> Governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite.</p> <p><u>Function:</u> receiving further wireless communication in the apparatus, the further wireless communication including a configuration.</p> <p><u>Structure/material/acts:</u> For example, apparatus B (1302) and process 5 of Fig. 13, <u>communications module 230 of Fig. 2, memory 330 and processor 300 of Figs. 3, 7A, 8A, 9A,</u></p>

	<p><u>or 11, software-defined radio module 1102 and software modules 1110-1118 of Fig. 12, and step 1462 of Fig. 14B, and the corresponding portions of the specification at 6:17-30, 6:50-7:22, 8:60-9:5, 17:8-52, 18:4-6, 18:45-60, 20:45-48, 22:11-15, 22:37-46, and 22:56-59, and equivalents thereof.</u></p> <p><u>“Computer program code configured to receive ... configuration”:</u> Not governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite. No construction necessary – plain and ordinary meaning.</p> <p><u>To the extent, however, that the Court treats the term as means-plus-function, the function and structure identified above (except that “processor 300” and “software-defined radio module 1102” were not identified for this term).</u></p> <p><u>“The processor being configured to receive ... configuration”:</u> Not governed by 35 U.S.C. § 112, ¶ 6. This term is not indefinite. No construction necessary – plain and ordinary meaning.</p> <p><u>To the extent, however, that the Court treats the term as means-plus-function, the function and structure identified above.</u></p>
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67. My understanding is that NEC and WSOU agree that of these related terms, the term “means for receiving further wireless communication in the apparatus, the further wireless communication including a configuration” is a means plus function term written subject to 35 U.S.C. § 112, ¶ 6. This requires an analysis of what a POSITA would identify is the specified function from the claims, as well as the corresponding structure for performing that function from the specification. My understanding is that NEC and WSOU agree that the specific function is “receiving further wireless communication in the apparatus, the further wireless communication including a configuration.” However, my understanding is that NEC’s position is that there is no

sufficient corresponding, clearly-linked structure, material, or acts for performing this function, and that it is therefore indefinite. WSOU, on the other hand, had initially proposed that the corresponding specification structure is:

For example, apparatus B (1302) and process 5 of Fig. 13, and the corresponding portions of the specification at 20:45-48, and equivalents thereof.

As I explain below, a POSITA would not find that this portion of the specification identified by WSOU is clearly linked, sufficient structure for performing the specified function. As a result, a POSITA would find this “means for …” term to be indefinite.

68. Because NEC and WSOU agree that this “means for …” term is subject to 35 U.S.C. § 112, ¶ 6, I have looked to the specification to see if it clearly links any corresponding, sufficient structure for performing the recited function of “receiving further wireless communication in the apparatus, the further wireless communication including a configuration.” The specification does not recite any corresponding, sufficient, or clearly linked structure for performing this function. A POSITA would understand that “receiving further wireless communication in the apparatus, the further wireless communication including a configuration” is a more specific type of function for receiving information than simply receiving any and all information and wireless signals, and is not just any communication that might be received by the apparatus. However, the specification does not identify any structure of an apparatus that performs this receipt of a configuration. The specification at most discloses generally some components (e.g., that the Apparatus B has an antenna and radios for receiving wireless communications) that may receive wireless information generally. A POSITA would not understand the specification to disclose, much less clearly link, any particular structure for performing the function of “receiving further wireless communication in the apparatus, the further wireless communication including a configuration.” Because the specification does not disclose or clearly link sufficient structure for

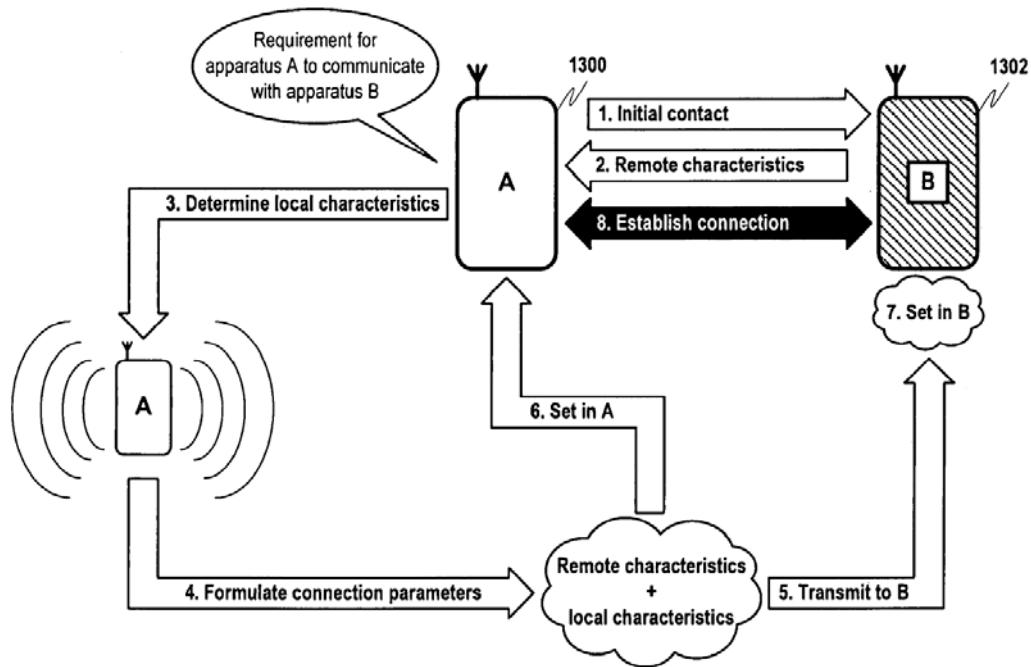
performing this specific function, a POSITA would find that the claim term “means for receiving further wireless communication in the apparatus, the further wireless communication including a configuration” is indefinite.

69. This indefiniteness is further confirmed by WSOU’s proposed construction of the corresponding structure. As noted above, WSOU initially proposed the following as corresponding structure:

For example, apparatus B (1302) and process 5 of Fig. 13, and the corresponding portions of the specification at 20:45-48, and equivalents thereof.

The specification does not clearly link this structure to performing the claimed function, and this structure is not sufficient to perform the claimed function. In Fig. 13, “Apparatus B” is drawn as a rectangle with the letter “B” in the center. There is no explanation of what happens inside of the box labeled “B,” and there is no discussion about what feature, code, algorithm, or portion of “B” might receive remote characteristic information into the apparatus. Box “B” does not provide corresponding *structure* to perform the specific function of “receiving further wireless communication in the apparatus, the further wireless communication including a configuration.” Further, the preamble of the claim language already states that the “apparatus” comprises this “means for receiving further wireless communication in the apparatus.” WSOU’s proposed identification of box “B” as corresponding structure is merely redundant of the functional claim language used, i.e., an apparatus for receiving further wireless communication in the apparatus. A POSITA would not understand box “B” to be clearly linked structure for performing this “receiving further wireless communication in the apparatus, the further wireless communication including a configuration” function. Indeed, a POSITA would not find box “B” to provide *structure*. It is instead a graphical placeholder for structure that the patent never specifically identifies. As a result, the specification’s “Apparatus B” is not sufficient to perform the claimed

function, because there is no disclosure of the required hardware, software, algorithms, steps, computer program code, instructions, or other structure of Apparatus A that is sufficient to perform this claimed function. WSOU's proposed corresponding structure also identifies "process 5 of Fig. 13, and the corresponding portions of the specification at 20:45-48." Figure 13, reproduced below, is high-level and fails to provide any meaningful structural detail for what actually happens inside of box "B." Although process 5 discloses "transmit to B," in which wireless information is transmitted by Apparatus A and received by Apparatus B, this figure does not disclose any specific structure, hardware, software, algorithms, steps, computer program code, or instructions for performing this function. Instead, a POSITA would understand Figure 13 to simply be disclosing a functional description that a configuration is received by Apparatus B at step "5. Transmit to B."



WSOU's proposal also is incorrect because it appears to identify the entirety of Figure 13. At most, it is only the portion "5. Transmit to B" that a POSITA might look to in seeking to understand how the inventors proposed to "receiv[e] further wireless communication in the apparatus, the further wireless communication including a configuration." But, as already discussed, Figure 13

and the portion labeled “5. Transmit to B” fails to disclose any particular or detailed structure for performing this specific function. WSOU’s proposed construction also identifies the ’213 patent at 20:45-48, which states:

After formulation of the configuration is complete, the configuration may be sent to apparatus B 1302. In various embodiments of the present invention, the configuration may be sent to apparatus B 1302 on the initialization channel.

None of the above passage identifies any structure, by which Apparatus B, which is the receiving apparatus, receives a configuration wirelessly from Apparatus A. At most, this short passage only repeats that functionally, Apparatus B receives a configuration sent by Apparatus A. This passage also does not disclose any structure sufficient for Apparatus B to receive a configuration from Apparatus A. In summary, the passage that WSOU points to in its proposed construction does not disclose any specific hardware, software, algorithms, steps, computer program code, instructions, or other structure that performs this function which is sufficient, or clearly link any such structure to the function of “receiving further wireless communication in the apparatus, the further wireless communication including a configuration.” For all of these reasons, a POSITA would not understand Figure 13, and the corresponding portions of the specification at 20:4-24, to disclose corresponding, clearly-linked, sufficient structure for performing the claimed function. As a result, a POSITA would conclude that the term “means for receiving further wireless communication in the apparatus, the further wireless communication including a configuration” is indefinite.

70. I was informed that WSOU has said that it has supplemented its initial proposed structure identified above with the following additional proposed structure indicated in red below

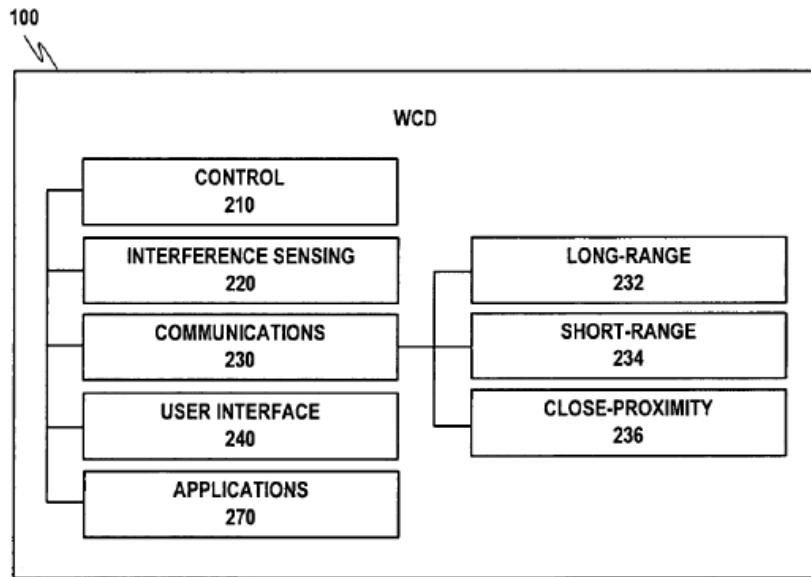
Structure/material/acts: For example, apparatus B (1302) and process 5 of Fig. 13, communications module 230 of Fig. 2, memory 330 and processor 300 of Figs. 3, 7A, 8A, 9A, or 11, software-defined radio module 1102 and software modules 1110-1118 of Fig. 12, and step 1462 of Fig. 14B, and the corresponding portions of the specification at 6:17-30, 6:50-7:22, 8:60-9:5, 17:8-52, 18:4-6,

18:45-60, 20:45-48, 22:11-15, 22:37-46, and 22:56-59, and equivalents thereof.

However, a POSITA would still find this claim term indefinite, because the specification does not clearly link this additional structure to performing the claimed function, and this structure is not sufficient to perform the claimed function. Only one passage of the new disclosures references “receiving” a “configuration,” at 18:52-54:

The receiving device may then enter a waiting loop in steps 1462 and 1464. For example, the receiving apparatus may wait for a configuration from the initiating apparatus until a condition is exceeded (e.g., until a duration from the time that the characteristic information response was sent, until a number of retry transmissions has been exceeded, etc.).

This too fails to disclose anything about how to “receive” further wireless communication including a configuration, nor does it identify what hardware, software, computer program code, algorithms, steps, instructions, or other structure does so. Figure 2, which WSOU also identifies and is shown below, similarly does not provide any detail or information about any structure that performs this “receiving further wireless communication” function.

FIG. 2

As shown above, Figure 2 shows certain generic components as a “black box,” including communications module 230. But Figure 2 does not identify which components, if any, perform the “receiving further wireless communication” function, much less how they do so. Similarly, Figures 3, 7A (shown below), 8A, 9A, and 11 (also shown below), which WSOU also identifies, show certain generic components as a “black box,” including memory 330 and processor 300, but do not identify which components, if any, perform the “receiving further wireless communication” function or how.

FIG. 7A

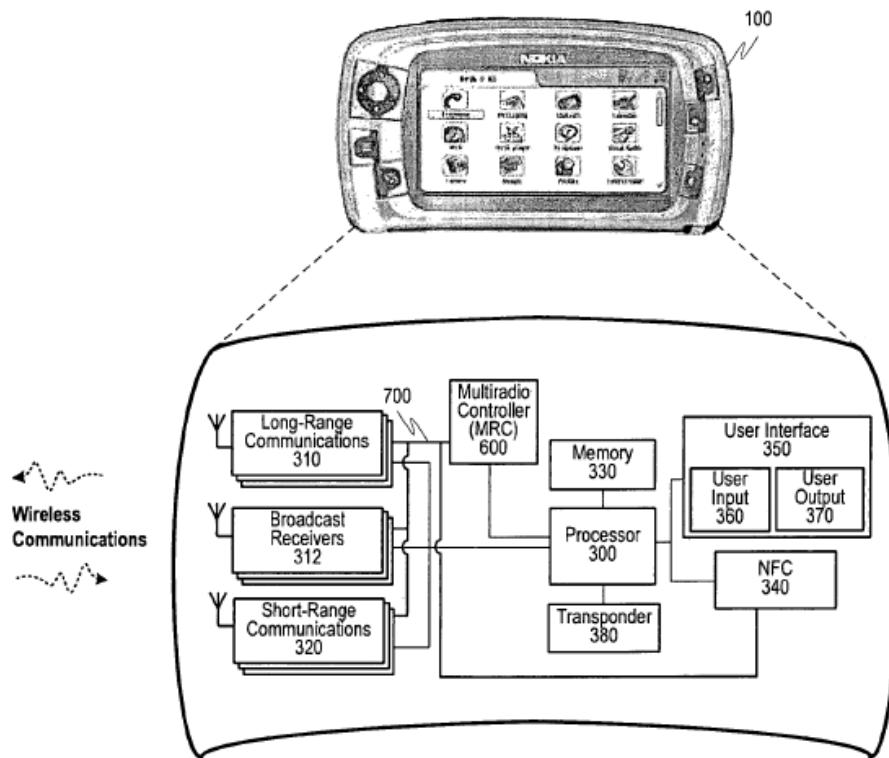
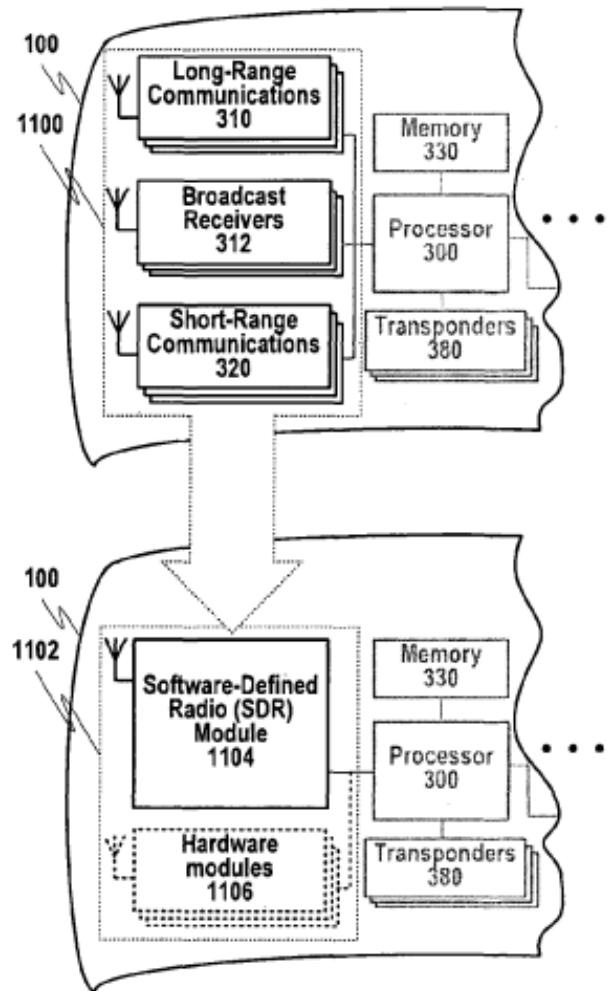
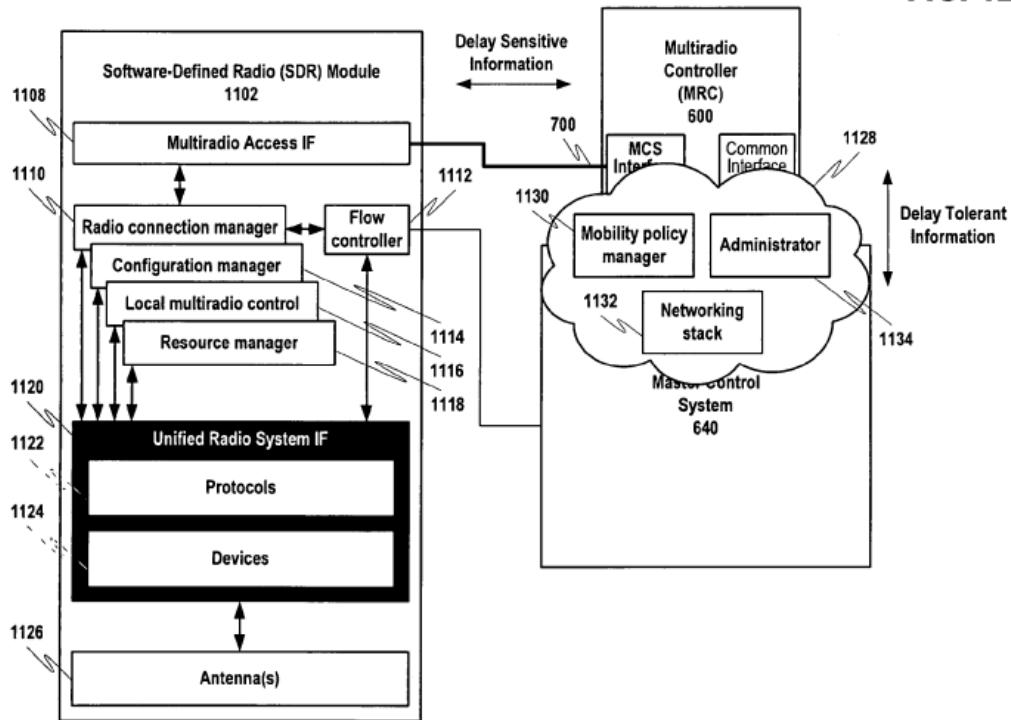


FIG. 11

Further, Figure 12 and its disclosure of SDR 1102, reproduced below, similarly do not disclose that SDR 1102 performs this “receiving further wireless communication” function, or any hardware, software, algorithms, steps, computer program code, instructions, or other structure for doing so.

FIG. 12

As shown above, the example of Software-Defined Radio Module 1102 in Figure 12 has a Multiradio Access IF 1108, certain “manager” modules 1110, a “flow controller” 1112, a “Unified Radio System IF” 1120 having Protocols 1122 and Devices 1124, and one or more Antennas 1126. None of these sub-components is disclosed or linked by the specification to “receiving further wireless communication in the apparatus, the further wireless communication including a configuration.” *See '213 patent at 18:9–60* (describing these components). A POSITA would not understand from the specification that SDR 1102 of Figure 12 performs this “receiving further wireless communication” function, or that the SDR has sufficient structure to do so for the different examples and embodiments disclosed.

71. WSOU’s identification of a software defined radio (SDR) as part of the corresponding structure for this “means for” terms raises an additional definiteness problem to a POSITA. In general, an SDR is a type of radio in which software defines how the radio

communicates, such as which communications protocol to emulate. As an example, using some of the exemplary communications protocols from the '213 patent specification, and SDR might be able to communicate using two or more of the long-range communications protocols (GSM, WCDMA, GPRS, PCS, or WiMax.) '213 patent at 7:23–47 and Fig. 3. In order to do so, however, the SDR would need to have particular software, including specific algorithms, in order to be programmed and configured to communicating using each long-range communications protocols or standards, as well as to switch between one protocol or standard to another for communications. It is this software that distinguishes the SDR from a more traditional radio only able to communicate using one communications protocol or standard. But the specification does not disclose any specific software, algorithms, instructions, or other specific structure as is needed for an SDR to perform the claimed function, nor does it disclose any examples of any such software, algorithms, or instructions for any of the identified long-range, short-range, broadcast, or close proximity communications technologies. Further, there are many different ways, algorithms, instructions, and other structures that a POSITA could use to program and SDR to carry out these different communications technologies. As a result, all the specification discloses is a black box, general-purpose SDR having no specific structure and incapable of communicating using any of the identified long-range, short-range, broadcast, or close proximity communications technologies. My understanding is that for definiteness, the specification must disclose specific structure, including for software-implemented inventions and processing specific software, algorithms, and instructions, for there to be a special-purpose processor or structure (here, and SDR) that is sufficient to carry out the specified function here of “receiving further wireless communication in the apparatus, the further wireless communication including a configuration.” Because there is no such disclosure or clear-linking of any specific software, algorithms, or instructions, then even

under WSOU's proposal that the corresponding structure includes an SDR, a POSITA would still find this claim term indefinite. And, as I have already discussed, the specification does not clearly link an SDR to the specified function here of "receiving further wireless communication in the apparatus, the further wireless communication including a configuration," so a POSITA would not view an SDR as corresponding, clearly-linked, or sufficient structure for this function.

72. I also understand that NEC asserts the similar claim term reciting "computer program code configured to receive further wireless communication in the apparatus, the further wireless communication including a configuration" does not identify specific structure for performing the recited function of "receive further wireless communication in the apparatus, the further wireless communication including a configuration." Here, while the words "means for" are not used, the term "computer program configured to" would be recognized by a POSITA as a nonstructural nonce word. And, because the claim limitation is set forth in functional language without the identification of sufficient structure to perform the claimed function, I understand that the term is to be construed subject to 35 U.S.C. § 112, ¶ 6. I understand that NEC's position is that this term is subject to 35 U.S.C. § 112, ¶ 6, but is indefinite because there is no specification structure that is clearly linked, sufficient to perform, or corresponds to this function. I agree with NEC that a POSITA would not find the claim language reciting "computer program code being configured to ..." to be specific structure, material, or acts for performing the claimed function. The claim merely suggests that computer code might be used to achieve the claimed function, but it does not identify any such computer code, or even the algorithm(s) that might be implemented using computer code. The claim's general recitation of "computer program code" does not identify any specific algorithm, steps, instructions, method, or computer program code for performing the recited function. A POSITA would find this claim language to be a generic recitation of a function

to be performed by some unspecified computer program code. As a result, a POSITA would recognize that this “computer program code configured to …” is to be construed under 35 U.S.C. § 112, ¶ 6. In other words, to understand this claim term, a POSITA would look to the specification for any corresponding, clearly-linked sufficient structure to achieve the claimed function. As discussed above, there is none and a POSITA would find that this term is indefinite. Specifically, the specification does not disclose any specific computer program code, algorithms, steps, or instructions for performing this function. As I have explained above for the similar “means for …” term, the specification does not disclose any corresponding, clearly-linked, or sufficient computer program code (including any specific instructions, algorithms, or steps) that acts as “computer program code configured to receive further wireless communication in the apparatus, the further wireless communication including a configuration.” Also, WSOU’s proposed construction does not identify any specific computer program code (e.g., specific algorithms, methods, or instructions) for performing the claimed function. As a result, in light of the specification, a POSITA would find the claim term reciting “computer program code configured to receive further wireless communication in the apparatus, the further wireless communication including a configuration” does not reasonably inform a POSITA of what specific computer program code performs the recited, specific function. This claim term is therefore indefinite.

73. The third related limitation here recites “the processor being configured to receive further wireless communication in the apparatus, the further wireless communication including a configuration.” My understanding is that NEC asserts that this term is also subject to of 35 U.S.C. § 112, ¶ 6 because NEC asserts that the claim does not disclose sufficient, specific structure for performing the recited function of being “configured to receive further wireless communication in the apparatus, the further wireless communication including a configuration.” My further

understanding is that NEC asserts this term is indefinite because there is no specification structure that is clearly linked, sufficient to perform, or corresponds to this function. I agree with NEC that a POSITA would not find the claim language reciting “the processor being configured to …” perform this function to be a specific structure, material, or act. A “processor” as recited in this claim term is nothing more than a general-purpose processor. The claims do not recite a specific processor having been configured to perform the recited function of having been configured “to receive further wireless communication in the apparatus, the further wireless communication including a configuration.” Further, in order to “configure” the processor to perform the function, a POSITA would understand that the processor must be programmed with specific instructions and algorithms that perform the claimed function. Here, the claim language of claim 25 where this term appears does not identify any specific algorithm, steps, instructions, or method for performing this specific, recited function. Instead, it only recites:

[25.2.d] [the processor being configured to] receive further wireless communication in the apparatus, the further wireless communication including a configuration;

For these reasons, a POSITA would find that the “the processor being configured to” recites nothing more than a general purpose processor, and not specific structure necessary to perform the recited function. As a result, a POSITA would find that the claim term “the processor being configured to receive further wireless communication in the apparatus, the further wireless communication including a configuration” is subject to 35 U.S.C. § 112, ¶ 6. A POSITA also would find that this term is indefinite because the specification does not disclose any corresponding, clearly-linked sufficient structure for performing this function. As I have explained above for the similar “means for …” and “computer program code configured to …” terms, the specification does not disclose any corresponding, clearly-linked, or sufficient computer program code (including any specific instructions, algorithms, or steps) for performing the claimed

function. As a result, the specification does not disclose any “processor being configured to” perform the specified function, to the extent the configuration is done through computer program code and software. Also, WSOU’s proposed construction does not identify any special-purpose processor, computer program code, or other structure (e.g., specific algorithms, methods, or instructions) for performing the claimed function and configuring the processor as recited by the claim. As a result, in light of the specification, a POSITA would find the claim term reciting “the processor being configured to receive further wireless communication in the apparatus, the further wireless communication including a configuration” does not reasonably inform a POSITA of what specific structure, materials, or acts, performs the recited, specific function or otherwise configures the computer. This claim term is therefore indefinite.